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EDUCATION

VOLUME 77 *Our Seventy-Seventh Year of Publication* No. 5

INSTRUCTIONAL MATERIALS

Editorial Policy
Instructional Materials: Guideposts
What Is Educational Efficiency?
Everything With a Name in the Dictionary
Classroom Use of Educational Recordings
Creative Teaching Through Fiction
A Map Is Not the Territory
Encyclopedias: A Two-Way Street to Learning
The Opaque Projector—A Real Aid
Let's Put Instructional Games To Work
The Use of Graphic Materials In Teaching
Meeting Library Needs Together
An Instructional Materials Center
Selecting Instructional Materials and Equipment In Today's Schools
Developmental Changes In Thinking

A MAGAZINE DEVOTED *to the* SCIENCE, ART, PHILOSOPHY *and* LITERATURE *of* EDUCATION

EDUCATION

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EDUCATION

A PROFESSIONAL MAGAZINE

DEVOTED TO THE SCIENCE, ART, PHILOSOPHY AND LITERATURE OF EDUCATION

VOL. 77 JANUARY, 1957 No. 5

INSTRUCTIONAL MATERIALS

GUY WAGNER, *Editor*
Director, Curriculum Laboratory
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INTRODUCING OUR NEW EDITOR-IN-CHIEF

EMMETT ALBERT BETTS, Ph. D.

Dr. Betts in one of his many Pupil-Parent-Teacher interviews

With this issue of EDUCATION we take pleasure in introducing our new editor-in-chief, Emmett A. Betts. He comes to us with a rich background of teaching experience at all educational levels. He is the author of successful textbooks and many articles in professional journals. He is the Director of The Betts Reading Clinic, Haverford, Pa. and knows the educational problems of teachers, pupils and parents. Under his able direction, assisted by an eminently competent Editorial Board and group of Associate Editors, we expect EDUCATION will prove more practical and helpful than ever before in its 77 years of continuous publication.

The Palmer Company

EDUCATION

VOL. 77 JANUARY, 1957 NO. 5

Editorial Policy

EDUCATION has established a tradition of keeping faith with the school children of America since its first issue in September 1880. This tradition will be maintained under the direction of an eminently competent Editorial Board and group of Associate Editors.

Guest editors, selected for their competence in specialized areas of learning, will continue to plan whole issues and parts of issues on topics of current interest. However, future issues of EDUCATION will include more special articles meriting the consideration of our readers.

For the present, articles in EDUCATION are written for practitioners in education—parents, teachers, supervisors, superintendents, school psychologists, and instructors in teacher's colleges. While the need for scholars in special fields to communicate with each other is recognized, there also is a need for scholars to show how their insights can be used to improve educational opportunities for all students. It is, therefore, one of the chief aims of EDUCATION to help scholars to get their ideas across to those who are dedicated to the task of educating.

EDUCATION will continue to present different points of view on major issues in schools, such as phonics in the teaching of reading, controversial topics in the social studies, and teacher preparation and selection. Its authors will identify trends in such matters as the introduction of aviation education in the curriculum, the need of evaluating courses in mathematics and science for the age of jets and atoms, etc. To help reduce the gap between research and practice, scholars will review researches and books. In brief, our authors not only stimulate critical thinking about the *status quo* but also identify trends and offer considered opinions on the improvement of instructional programs.

For the next year, articles have been scheduled on audio-visual education, aviation education, child development, comparative education, creative teaching, curriculum, English, foreign languages, guidance, handwriting, listening, mental hygiene, music, physical education, reading, school administration, science, semantics, special education, speech, spelling, supervision, tests. Suggestions for topics to be discussed in EDUCATION are solicited.

Address all manuscripts and communications regarding editorial matters to the Editor-in-Chief:

EMMETT ALBERT BETTS
The Betts Reading Clinic
257 West Montgomery Avenue
Haverford, Pennsylvania

Instructional Materials: Guideposts

By GUY WAGNER
Iowa State Teachers College

ON DECEMBER 11, 1877, President James A. Garfield, in an address before the Department of Superintendence of the National Education Association, made the following statements: "It has long been my opinion that we are all educated, whether children, men or women, far more by personal influence than by books and the apparatus of schools. If I could be taken back into boyhood today, and had all the libraries and apparatus of a university, with ordinary routine professors, offered me on the one hand, and on the other a great, luminous, rich-souled man, such as Dr. Hopkins was twenty years ago, in a tent in the woods alone, I should say give me Dr. Hopkins for my college course rather than any university with only routine professors."*

The emphasis made by President Garfield is that the teacher is of the utmost importance in planning the education of our young people. This opinion is attested to by experience and by common sense.

Unfortunately, however, President Garfield's point of view has been sometimes twisted to imply that tools of instruction are relatively unimportant. Again experience and common sense will testify that this is not true—instead, it is essential that teachers have readily accessible a wide variety of the best and most up-to-date teaching materials if they are to do a top-notch job.

The "great, luminous, rich-souled" teacher would hardly be one who would sit complacently in his classroom, teaching by words only, while his more alert colleagues were capitalizing on the best instructional tools available. The fact is, that *the greater the teacher, the more likely he is to search out and use the best available tools of his profession.* And there are few parents or responsible citizens who do not cherish for the generation growing up the best education possible within the limits of our economy.

There are certain key principles which underlie the selection and use of instructional materials. In one sense, these may be called *guideposts.* In another sense, these principles may serve as a helpful check list in measuring the degree to which schools are providing and effectively using the wealth of instructional materials available.

A few of the more important principles underlying the selection and use of instructional materials are:

1. Teachers should strive constantly to develop wisdom in choosing the *right tool* for the teaching job at hand.
2. Teaching is usually more effective when a reasonable variety of teaching materials is used.
3. Each building should have a classified inventory of materials.

*National Education Association. Addresses and Journal Proceedings, Session of the Year 1877, Louisville, Kentucky. Published by the Association, Salem, Ohio.

4. Teaching material should be kept fresh and up-to-date.
5. Available material should be put into action or discarded.
6. Teachers should expect administrators to consider their request for new materials only after they make good use of existing supplies and equipment.
7. The school building and community should be capitalized as rich sources of learning materials.
8. Pupil-constructed materials often increase understanding and foster interest.

In the following pages of the January 1957 issue of *Education* a number of practical educators have presented some frontier thinking regarding some phase of instructional materials in which they are particularly well informed and especially concerned. It has been a rewarding experience for the editor of this issue to scrutinize carefully the writings of these authorities. In his opinion, this volume of collected articles, dealing with the theme of modern teaching tools and how to use them, is forward-looking and inspiring. Perhaps as important, they contain many ideas that have practical application for the schoolrooms of the nation.

It is our hope that teachers throughout the land will become acquainted with this issue dealing with instructional materials. Superintendents, supervisors and principals are urged to consider obtaining several copies for distribution among the teachers in the various building of the school system. Surely, enterprising teachers will find herein a wealth of ideas to make teaching more fruitful.

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What Is Educational Efficiency?*

By JAMES D. FINN

Professor of Education, University of Southern California

WE THINK that the education of the young (and, in these days, of adults, too) is just about the most important business of the people of the United States. There's no need to go into the basis of this proposition for our readers; it should not even be necessary to defend it to the general public. Education has always been important business. But the immediate world of the future with nuclear power, automation, instantaneous communication and fantastic speeds of travel presents a picture so complex as almost to defy the educational function.

It follows that the important business of education should be conducted as efficiently as possible. Throughout the United States, thousands and thousands of school board members and other thousands of administrators and supervisors have worked hard (and sometimes thanklessly) attempting to do just that. We have always felt, by the way, considering the money, physical resources and personnel available, that education as a whole is conducted at a level of efficiency that would at least rival the best that industry reaches.

However, in 1956 and for the future, our present level of educational efficiency is not enough. School administrators and board members need to take a new look at their enterprises. Efficiency *must* be increased and, as a necessary first step, the question must be asked, "What is educational efficiency?" Too often it has been thought of as expressed in low bids for buildings, streamlined organization charts, or a tax-rate that will keep the community happy.

Educational efficiency can be measured in only one place—the classroom. Other types of efficiency are no doubt involved in the educational enterprise—business efficiency, cleaning efficiency, construction efficiency, etc. These latter types of efficient activities are easy enough to manage and measure. We have not done so well with classroom efficiency—the truly important element in our problem.

The key to classroom efficiency is the classroom teacher. Much has been said recently about the quality of classroom teachers, and various plans have been proposed to attract the best possible people to the teaching profession. *However, even assuming every teacher in the land was a paragon, classroom efficiency would not be greatly increased from what it is today because our system is unbelievably outmoded.*

To begin with, teachers in America are not supplied with the tools to do their job. Many school boards and administrators are pleased when they have *one* motion picture projector. Of course, there are still many districts without any such equipment at all. Where this almost useless minimum of equipment exists, films have to be obtained from

*This editorial from the Summer 1956 issue of *Learning Tools* is reprinted here with the permission of Dr. Finn, Chairman, Editorial Board, *Learning Tools*.

limited stocks in libraries miles away and very often projected under such primitive conditions that the students get nothing from the experience. The same thing holds true to even a greater degree with other equipment—filmstrip projectors, tape recorders, opaque projectors, overhead transparency projectors, etc. Teachers have not been supplied with modern tools to do the job, and, in an incredible share of the cases, even when a few of the tools are present, the conditions of lighting, sound, and ventilation make their use almost impossible.

To the problem of equipment must be added the problem of materials. Films cost much more than they need to. Why? Because a producer is lucky if he can sell 500 prints of a film that cost him $20,000 to make. He should be able to sell thousands of prints. If he could, the price would drop. Until the producer can sell thousands of prints, teachers will be plagued by inefficient film use—ordering far in advance from a distant library with the hope that the film will come in the day it is to be used. In the large cities that have their own collections, the problem is much the same. Materials in quantity must be made available cheaply and easily if we are to have classroom efficiency.

For materials other than films—for recordings, tapes, filmstrips and the rest of the "equipment-related" materials, the picture is even worse. The major film producers at least have the skeleton of an organized distribution system. Recordings, filmstrips, etc. are often sold by direct mail or in connection with orders for sweeping compound. Libraries may or may not include them in their collections. These relatively inexpensive and powerful teaching tools are available in a droplet when we need a flood for efficient instruction.

Then we come to the materials that are not "equipment-related." We mean flannelboards, magnetic boards, cut-out letters, transparency material, art and display papers, etc. The modern teacher knows how to turn all of these things and many more into effective teaching tools. Add to this list the current curriculum directors' craze for encouraging the teacher to make her own experience charts, duplicated exercise materials, job-sheets and independent activity materials, and the materials situation becomes even more complicated and less efficient.

Teachers are expected to collect the milk money, supervise the essay contest, do playground duty, make out countless reports, hold parent conferences, fix up the room for Public Schools Week, visit homes, attend workshops and institutes, go to summer school, serve on the curriculum, hospitality, and clean-up committees, regularly attend PTA, patrol the study hall or cafeteria and—incidentally—to teach school. The modern teacher's load is the height of inefficiency itself. We cannot expect her, staggering home bone-tired after a full day at school and a PTA Founders Day meeting, to spend one minute making tools—"teacher-produced materials"—even though they could increase her teaching efficiency.

We suggest that school boards, administrators and supervisors need take a new, realistic look at the problem of educational efficiency—classroom efficiency. Not all of this new look needs to be related to teaching tools, but certainly a large share of it does. Recent experiments with teaching assistants and other devices to reduce the extraneous

load of the teacher may have promise, but how much can be done within the present framework—especially as regarding teaching tools. We recommend serious consideration of the following:

1. Equip your schools properly. This means get enough equipment into each school so that it may be used when needed and so that it will be there in working order. Anything less is gross inefficiency. Schools are already lagging behind industry (and some say even the churches) in the amount of equipment available. This is ridiculous. It is the business of the school to teach. And to teach today means to have the proper tools. Our present equipment needs to be expanded fifty-fold. Now!

2. Discard the idea that each teacher needs to make her own curriculum materials. In a relatively small school, a teacher especially trained in materials production should have this as one-quarter time, one-half time, or even her full assignment. In a departmentalized school, this divison of labor could apply by departments with one teacher in the department doing the job. Better and more duplicated materials, room environments, etc. could be created this way without doing particular violence to what may be a questionable curriculum assumption that each teacher ought not only to make the curriculum but the materials thereof.

Furthermore, the somewhat unreasoned antipathy that some curriculum people have toward commercially prepared materials such as workbooks, exercise materials, charts and job sheets needs re-examination. Granted that many teachers place too much reliance on such materials; granted that materials prepared in New York may have little significance in Texas, there still remains room for the application of intelligence to the problem of the commercial creation of good curriculum materials.

3. Obviously, what is suggested above would add other functions to "building representative" or "building coordinator." In a larger departmentalized school, such a coordinator would have a real, full-time coordination job with teachers specializing in materials production in addition to his more accepted duties (where he exists, that is).

4. What has been said about the school level also applies to the district level. In addition to adequate library services for audio-visual materials, there needs to be a great expansion of local production of materials that could be used on a district-wide basis. In sparsely populated areas, this could mean a county or township-wide basis. The objection that some administrators and board members might raise to such proposals is simply answered. They might tend to count non-teaching personnel as non-productive—as reducing the efficiency of the system. With respect to the creation and management of teaching tools, nothing could be further from the truth. If locally produced materials are important—and we think they are—then the most inefficient way to attempt this is to ask the already overloaded teacher to produce them. Her job is to teach with them. We need more, not less, non-teaching specialists.

5. Design your new classrooms and remodel your old ones so that these new tools may be used. Thousands of children strain to look at films they can't see because of intervening sunlight in improperly designed rooms, and many partially suffocate in the process. We need proper light control, ventilation and

acoustics in every classroom in the nation. This is 1957, not 1757. We have a job to do.

6. Buy *quantities* of good materials: films, filmstrips, recordings, tapes. And put these materials where they can be reached. If every school district in the nation were to embark upon a program of quantity purchase of films, etc., the price of these materials could be reduced fantastically, and every child in the land would benefit. Some materials belong in the individual school; more belong in the district library; let the supplementary and seldom-used (but important) materials reside in distant repositories.

These are our suggestions for increasing educational efficiency. But the "practical" board member or administrator is sure to ask: "Fine, but where will we get the money? Do you want to take it out of teachers' salaries?" Of course we don't want to take it out of teachers' salaries. Teachers need to make much more money than they do today.

However, we still need the money for the proper tools, and board and administrators should get it. Their job is to run an efficient educational system. A system—and any kind of a productive system—without the proper tools is inefficient. We think that the school boards and adminstrators of America want desperately to create a great, efficient system of education designed to meet the problems that lie ahead. If they understand the problem of educational efficiency they can make the public understand and they can get the money.

Actually, though what we have suggested may seem shamelessly profligate to someone who thinks the money spent for a box of crayons is questionable, such expenditures as we are recommending do not represent a very large share of a school budget. Which gets us back to the basic question. What is a school for? What is educational efficiency? Can we start, all over America, on a five-year program to achieve educational efficiency? At least can we tool up for it? Mr. Board Member, Mr. Administrator, it's up to you.

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Everything *with a* Name *in the* Dictionary

By DEVONA M. PRICE

Director of Instruction, Oak Park Elementary Schools, Oak Park, Illinois

EVERY parent wants his child to have a better vocabulary than he, the parent, has. For proof of this statement, recall how fascinating it is to a family to hear one of the young fry correctly use a fairly long word. Members say to one another, "Where did he learn that?" "He must have heard the teacher say it," or "I'll bet he's picked that up on TV."

The family may never "figure out" where that word was learned, but its pride and pleasure in hearing one new one after another increases by the word. Why is an A B C Book or a beginner's dictionary always one of the books that a super-market parent adds to his basket in which the two-or three-year-old is taking a ride? The parent is endowed with that innate compulsion for wanting to teach the young. Something like old black magic pulls and draws the parent to a word and picture book.

Intense educators are always prone to shun the easy and the obvious. They have to make things hard. They are fired with an excessive determination to develop vocabularies. They build courses of study by the year which include a line or two labeled *Dictionary Study*. By the time one has unraveled when and how to teach the dictionary, fatigue and nausea have set in. At this point I can sense the reader saying, "O.K., if there is a painless profitable way to teach it—let's have it."

If the reader's mind and attitude are crystallized to the point of no reverse, the following suggestions will, as the cliché goes, fall on fallow ground. For those who are dedicated to helping the learner grow in stature and confidence, there are always ways to improve instruction.

Every phase of the school's program and every phase of successful out-of-school living relates to the use of language skill. Man's "unconquerable mind" is the result of his ability to communicate ideas.

Man has found the use of words indispensable to his progress. If, then, we ardently want all learners to have access to the use of words, there must be a planned program for developing a vocabulary. *There is no other book as available and as useful as a dictionary for setting up a plan to improve language skills.*

A young child's dictionary can be a "tie that binds" the work of home and school. It will have page identifications from Aa to Zz. A lot of parents still believe in teaching the alphabet. High chairs, playpens, cribs, blocks, and other paraphenalia for the very young have some ornamental scheme of displaying the A B C's. If the A B C's are missing

in the decorative design, parents can always apply decals here and there to satisfy their A B C conscience.

Parents' insistence on acquainting children with the A B C's may stem from the fact that, for a long, long time, learning the alphabet was the first imperative in teaching the reading process. Teaching methods have changed, but to date man has been unable to devise a system that is more satisfactory for communicating than the twenty-six characters of the alphabet.

A six-year-old who owns his own primary dictionary (there are good 25 cent paperbacks with large print and colorful pictures) will soon observe that the *A* words are first, the *M* words are near the middle. He can be directed to

- "figure out" words with the help of the pictures
- find words that look like other words
- notice that a word begins like another one
- assimilate the fact that sometimes a word has more than one meaning

By the time the learner is a seven-year-old he can refer to his primary dictionary to read, understand, write and spell the same word. He may even want to make his own dictionary. He is hearing and speaking words which he needs but which aren't found in the entries of a little dictionary. A bit of encouragement and planning for setting up his own alphabetical recording system in a large notebook or in a prepared pad of penmanship paper will reap its own reward. Words can be alphabetized according to the first letter only, with an illustration here and there to explicitly indicate more than one meaning for a word. A simple sentence may be written after some of the words to further clarify the meanings. In this way the seven-year-old has made his own handy reference for writing stories, labels and items for the second grade newspaper.

At nine years old, the third grade learner is ready for a dictionary in which the entries have been increased from 300 to approximately 2000 or 2500 entries. Not only is there an increase in the number of entries, but in the number of meanings one word may have. Each of the different meanings should be presented in a sentence. The simplest primary dictionary provides no more than two definitions for a word but a more advanced one, suitable for eight-year-olds, usually gives at least four definitions. The pages will be numbered and the Aa to Zz identifications in the upper left hand corners should be plainly evident.

No formal drill is needed to alert most third grade children that words are alphabetized not only according to the beginning letters, but also by the first two. Examine the first few pages of the *B* entries, i. e., *baby back bad baggage bake ball balloon*, then turn to *bead bear beard beat*. Observation and attention point up the alphabetical sequence.

Preceding a learner's entrance into grade 4 he has, United States-wise, been exposed to a fragment of word study in a spelling book, a page about vowels here and there in some workbook, and an exercise off and on for figuring out strange words.

By the time a learner becomes nine years old he is ready for systematic instruction in the management and use of a hardback dictionary that presents a simple system of diacritical marks. The system itself then, in turn, must be

simply explained in an introductory "Guide to Pronunciation."

The time has come to learn to use a tool that can be relied upon to help develop skill in speaking, reading and writing. The dictionary is that tool!

Lessons in the management of a dictionary can begin with lively practice in locating the *M D* and *S* words. Expertness is developed by holding the A to Z section upright between the palms of the hands, inserting each thumb midway, and opening to the *M* entries. Keep the book open and use the same process to locate the *D* words in the middle of the first half, and the S words in the middle of the last half. Provide practice then for word sections of the dictionary that are found before or after *M D* and *S*. Nothing makes one appreciate the value of a tool *more* than one's facility in using it.

After facility in management is assured, lists of TV programs, fountain menus, local street guides, and pupil's names can be alphabetized,—first with attention to the first letter of each word, then listed again with attention given to the first two letters and finally alphabetized as indicated by the first three letters.

When facility in the use of the dictionary proper and facility in alphabetizing is fairly well assured, it is time to teach the three diacritical marks that are useful in extending and refining their language skills.

These three diacritical marks are the macron for the long sound of the vowels, the breve for the short sound, and the schwa (ə). The schwa (rhymes with ha! ha!) is used to indicate vowels that have very little sound. Say *pencil*. Can you hear any sound for the *i*? A good dictionary will present its pronunciation like this: *pen's'l* or *pen-səl* or *pen'səl*. The simplest way is the best way. Avoid risking your eyes and the children's by attempting to decipher the fine print explaining the diacritical marks for a suspended bar, dieresis, semi-dieresis, caret, tilde, and cedilla, *ad infinitum*. The application of useful diacritical marks will point up and bring together the phonetic principles that aid pupils in spelling and reading.

Every man has his own built-in equipment for syllabifying. Practice saying *snow*, then *snowman; school*, then *schoolhouse*. You'll feel an impulse from the voice box for each vowel SOUND. Better still, place your fingers lightly on either side of your voice box as you say *fascinating*. You should feel four voice impulses if you are feeling normal. There are four vowel SOUNDS in fascinating. How absurd it would be to dawdle away time proving it! (However, I'm pretty sure you will.) Syllabication is detected by pronouncing words. It's a very handy thing to know when you haven't space enough at the end of a written line to write a whole word. Say the word, separate it, and proceed.

Accent is controlled, too, by saying words. Much practice is necessary for developing a pitch emphasis of the voice wherever the dictionary accent mark (′) occurs in words.

If primary children can learn that some words have more than one meaning, intermediate learners can run the full gamut in "many meanings for one word." Attention directed to a dictionary entry can, in grades 5 and 6, interest and motivate diversified activities. For example, turn to *good*. What is its origin? Can it be used as the name of something, that is, a noun? Substitute synonyms for *good* in sentences. Is the

synonym as effective as *good* for the meaning that was originally intended? These questions are merely examples of bait that can be used to extend meanings, to develop an appreciation for shades of meaning and to provide practice in the use of the dictionary. "Words —the way he uses them and the way he takes them when spoken by others—largely shape (man's) beliefs, his prejudices, his ideals, his aspirations. . . . Human 'fitness to survive' means the ability to talk and write and listen and read in ways that increase the chances for you and fellow members of your specie to survive together."[1]

If the reader has the time and interest to find out about Dr. Sam Johnson's superb efforts in compiling the first English dictonary, he can find two excellent reviews in the Saturday Review of Literature, April 16, 1955, pages 20-22. The word *proligomenon* occurs in the reviews. Will *you* look it up?

1. Hayakawa, S. I., Language in Thought and Action, Harcourt, Brace & Co., 1949, pp. 21-26.

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Classroom Use *of* Educational Recordings

By WALDEMAR GJERDE
Audio-Visual Education, Iowa State Teachers College, Cedar Falls, Iowa
And RICHARD LATTIN
Principal, Campus Elementary School, Iowa State Teachers College Cedar Falls, Iowa

IN 1877 Thomas A. Edison turned a crank attached to a wax cylinder and a series of sounds, which could be recognized as spoken words, emanated from the device. Although the inventor considered this machine one of his favorite inventions, little did he know the extent to which the phonograph would be used in future years.

A series of developments have taken place—the change from a cylinder to a disc in 1887, the introduction of the electronic tube and improved amplification in 1925, and the long-playing or microgroove record in 1948. We now have recordings varying in diameter from six to sixteen inches; we have speeds of rotation of 16-⅔, 33-⅓, and 78 revolutions per minute; and we have records that play up to twenty-four minutes on each side. We have plastic tapes on which we can record through a magnetic process a musical program, a speech, a dramatization, or a discussion. The length of the recording is limited only by the size of the reel which can be placed on the recording machine.

The use of recordings as enrichment material for classroom instruction is restricted only by the imagination of the teacher. It is our purpose here to suggest a number of possible techniques a teacher might use to enrich the child's learning experiences, assist the child in improving his communication skills, and help diagnose difficulties relative to the child's development.

The Disc Recording

Although it has sometimes been said that magnetic recordings will replace disc recordings, it is the opinion of the writers that disc recordings maintain an important place in an enrichment program. Some of the advantages of this type of recording are:

1. Record players are relatively simple to operate and easy to transport.

2. Record playing equipment is relatively inexpensive.

3. Disc recordings are owned by many children and sharing their records with the rest of their group gives them an opportunity to contribute to class activities.

4. Replaying an entire record, or part of it, can be done quickly and easily.

5. Disc recordings are permanently recorded. Although they can be damaged by improper use, the recording will

not be erased as might happen to a tape recording.

The Values of Educational Recordings

It is the goal of most teachers to create in their classrooms a stimulating learning environment. They actively seek to provide experiences that are related directly to the lives of their pupils. Much can be done in this area through the wise use of disc recordings. The following may give some clues as to possible uses:

1. *Educational recordings can give life and meaning to historical events.* Let's consider a few examples. The album *Cavalcade of United States Presidents** contains speeches by Theodore Roosevelt, William Howard Taft, Woodrow Wilson, Warren G. Harding, Calvin Coolidge, Herbert Hoover, and Franklin Delano Roosevelt. While it is true that the sound quality of some of the early recordings is poor; nevertheless, these historical characters become real people as the children, sometimes with wide-eyed wonder, listen to their voices.

Our children should know why the world became involved in World War II. What events led up to the final outbreak of war in Europe in 1939? The album *Then Came War:* 1939 presents the voices of world leaders of that time. Here is reliable and factual information made real by the actual voices of Hitler, Chamberlain, and Daladier. And the war itself. *Those Historic Years* presents, through the voices of world leaders, important events during and immediately following the war.

Another approach to the study of this period might be through listening to the speeches of Franklin Delano Roosevelt. Two albums of *Rendezvous with Destiny* contain excerpts from Roosevelt's radio addresses. These speeches give the series of events that made history during this period.

Historical events covering the entire period from 1919 to 1949 are contained in the three *I Can Hear It Now* albums. Actual voices are recorded in most cases. Narration is done by Edward R. Murrow. Some of the most dramatic incidents of these years are made real through these recordings.

2. *Educational recordings can bring into the classroom authentic sounds.*

Elementary teachers generally include an Indian unit in their curriculum. Recordings of simulated Indian songs that are available often do not provide authentic sounds. However, if a teacher will use the album *Natay, Navajo Singer,* it will provide the children with authentic Indian music. These recordings are sung by Edward Lee Natay, a Navajo Indian, who has spent his entire life learning the songs of many Indian tribes. The children can hear songs of the Pueblo, Kiowa, Navajo, Hopi, and Zuni Indians.

The best way to teach is through real, purposeful experiences. The best way to hear sounds of nature such as bird songs would be to go out in the open fields or forests and listen to these sounds. But when that is not possible, the best substitute would be to use the two albums *American Bird Songs.* These recordings contain authentic songs of most common birds.

3. *The best talent in the land can present dramatizations to the class.*

Historical events are likely to appear

*The sources of all recordings mentioned will be found in the list at the end of the article.

dull when taught in an uninteresting way. But if a teacher will enrich his presentations by using such recorded dramatizations as *The Wright Brothers, Paul Revere and the Minute Men, Our Independence and the Constitution,* and the *California Gold Rush,* these milestones, along with many others in our history, will be brought to life.

The *Lest We Forget* series presents the lives of many of our great Americans. In these recordings one can hear such outstanding actors as Melvyn Douglas, Ralph Bellamy, Helen Hayes, and Frederic March. The album *Stories to Remember,* designed to improve human relations, also uses many of the leading dramatic actors in the presentations.

4. *The finest voices of the theater can be presented to a literature appreciation class.*

Caedmon Records has made available the recording *Poems and Tales of Edgar Allan Poe* read by Basil Rathbone, *Kipling's Just So Stories* read by Boris Karloff, *Tales of Hans Christian Anderson* read by Michael Redgrove, and a number of other similar selections. Students and adults alike are thrilled by Raymond Massey's reading of *Lincoln's Gettysburg Address.* And there can be no better renditions of Vachel Lindsay's poems than those by the poet himself. These are found in the Caedmon Record, *Vachel Lindsay Reading the Congo and Other Poems.*

5. *Listening habits of children can be improved through the use of appropriate recordings.*

In the elementary classroom where much of what is learned consists of the spoken word, the ability to listen is a skill that needs emphasis. Through skillful listening a child learns to appreciate the sounds of nature and the beauty of music. He also learns to interpret what is read and spoken.

A teacher might find the album *Sounds Around Us* effective in developing these listening skills. The child learns to recognize and interpret familiar sounds around the home, on the farm, and around the town. A similar album *Let's Listen* helps provide auditory training for reading readiness and speech development.

6. *Music appreciation can be developed through the use of recordings.*

The use of recordings for the development of music appreciation has been a common practice for many years. Recently some new recordings have been produced that are especially effective for this purpose.

A series of recordings called *Musical Sound Books* contains selections from many of the well-known musical compositions. Songs from *New Music Horizons* contain selections from many of the great music masterpieces selected for their appeal to young listeners. The six albums entitled *Listening Activities* contain a basic listening program for grades one through six. Here, too, selections have been made from the compositions of the great masters.

Magnetic Recordings

Within the past decade the magnetic recorder has been introduced to the schools of our country. Now in nearly all schools a tape recorder is available. At present there are nearly one hundred different models with a price range beginning at about one-hundred dollars. Magnetic tape has been reduced in price so that a 1200-foot reel of tape, on which sixty minutes of sound can be

recorded, may be purchased for about two and one-half dollars.

The growth in popularity of the tape recorder is a result of a number of special advantages which make it an excellent classroom teaching device: (1) It is relatively inexpensive, and, as a rule, quite simple to operate. (2) Recordings can be made and played back immediately. (3) The dual track recorder, operated at slow speed, makes possible recordings up to two hours in length on a single tape. (4) Tapes can be re-used a nearly unlimited number of times since a recording is made by a process of magnetizing particles of iron oxide on the tape. (5) Sound reproduction is quite accurate, although the fidelity is determined by the quality of the recording and reproducing mechanism.

Recorded Tapes

It is now possible to purchase a variety of recordings on tape, and the selection is steadily growing. As a rule, these recordings have excellent quality. A fairly recent periodical entitled *Tape Recordings* lists many of the tapes available from commercial companies.

Many states now have central "Tapes for Teaching" programs. These are usually under the direction of the extension division of the state university or possibly the state department of public instruction. A library of master tapes is developed and a listing of the titles of these tapes is distributed to the schools in the state. A teacher wishing to use one of the programs listed sends a tape to the library where the recording is placed on the tape and is returned to the sender. This tape recording then becomes the property of the school that owns the tape and can be used repeatedly in that school. The "Tapes for Teaching" program has now been expanded to include both a national and international exchange.

Tape Recordings in Teaching

Space will not permit us to go into detail on all the uses of tape recordings in the classroom. However, the following list of uses might give a teacher some fruitful ideas and promote an awareness of the tremendous learning opportunity that the tape recorder has to offer:

1. *Reading.* It is possible to help identify the reading problems of a child by recording and playing back a selection read by the child. With help from the teacher a child may be able to identify his reading difficulties and through a series of recordings keep track of the progress made in solving these difficulties. It gives the word-by-word reader or the phrase repeater a chance to experience success through hearing himself reading easy material. It is also beneficial for the child who has no reading difficulties to periodically make a reading recording so that growth over a specific period can be determined.

2. *Parent conferences.* Recordings of a child's reading difficulties and his improvement and growth are invaluable in counseling children and in confering with their parents. The naturalness of performance which is frequently lost when a parent visits classes can be more nearly preserved and illustrated. Experience shows that parents are often impressed favorably by this technique, especially when the teacher can "brag" a bit on their child's progress. Among other activities that might profitably be recorded and used for parent conferences would be sharing time, language

activities, creative dramatics, individual and committee reports and club activities.

3. *Speech correction.* An awareness of expression, tonal pattern, and enunciation can result in marked improvement. If a child hears himself as others hear him, it may result in valuable self-analysis and improvement. As standard procedure many schools now have voice recordings made early in the year and compare these with recordings made at the end of the school year. These reveal amazing progress in voice improvement through this type of analysis.

4. *Music.* Recorded individual and group music sessions can be a valuable stimulus for more accurate intonation and clearer tonal patterns. Helping monotones and teaching harmony would fall within this area. Also, children preparing a selection for a program can check and correct their performance before presentation. Among other uses of music recordings would be giving help in introducing new songs, rhythm activities, orchestra and band practice, and mood music for quieting restless groups.

5. *Foreign languages.* An increasing number of schools are introducing a second language in the elementary schools with strong emphasis on the oral approach. A recording can readily be used to test pronunciation and check conversational growth. An exchange of tapes with children from another country can be both interesting and profitable.

6. *Social Studies.* Committees working independently can keep their classmates informed by recording a brief running account of their activities. Community activities are readily brought to life by conducting and recording interviews with government officials, city employees, or citizens concerned with specific issues or projects. History is brought to life by interviews with "old timers." A committee report enriched by a recorded interview helps build and maintain pupil interest.

In Conclusion

The above paragraphs suggest just a few of the many ways recordings can be used in teaching, the resourceful teacher will create many other techniques.

The wide variety of educational recordings available should encourage a teacher to use recordings as regular enrichment material in his classroom. The use of magnetic recordings also opens up a vast source of potential materials and technique. Here is a wealth of material that will help to create interest, hold the attention of the students, and assist the teacher in making his classroom a place where children are eager to listen and learn.

It must be remembered, however, that recordings, like other instruction materials, will not do the job alone. The teacher is of paramount importance in determining the success of teaching. He will introduce recordings to his pupils when there is a need for them and when they bring understanding and vitality to his teaching. If he uses these aids wisely and carefully, the pupils' learning will be enriched and his teaching will be a more rewarding experience.

Sources of Recordings Mentioned in This Article

1. *Cavalcade of United States Presidents*, 1901-1940. Victor Album PS-1, Radio Corporation of America, RCA Victor Division, Camden, New Jersey.
2. *Then Came War*: 1939. World Book Co., Yonkers-On-Hudson, New York, N. Y.
3. *Those Historic Years.* Album A-100. U. S. Recording Co., Washington, D. C.

4. *Rendezvous with Destiny*, Vol. I-II. National Broadcasting Co., RCA Building, Radio City, New York 20, N. Y.
5. *I Can Hear It Now*, Vol. I-II-III. Albums MM-800, MM881, MM963. Columbia Broadcasting System, Inc., New York, N. Y.
6. *Natay, Navajo Singer*. Arizona Recordings Productions, 834 N. 7th Avenue, Phoenix, Arizona.
7. *American Bird Songs*, Vol. I-II. Comstock Publishing Co., Inc., Ithaca, New York, N. Y.
8. *The Wright Brothers*, Album No. L108. Enrichment Materials, Inc., 246 Fifth Avenue, New York 1, N. Y.
9. *Paul Revere and the Minute Men*. Album No. LLP103. Enrichment Materials, Inc., 246 Fifth Avenue, New York 1, N. Y.
10. *Our Independence and the Constitution*. Album No. L106, Enrichment Materials, Inc., 246 Fifth Avenue, New York 1, N. Y.
11. *California Gold Rush*. Album No. L103. Enrichment Materials, Inc., 246 Fifth Avenue, New York 1, N. Y.
12. *Lest We Forget Series*. Institute for Democratic Education, Inc., 212 Fifth Avenue, New York 10, N. Y.
13. *Stories to Remember*. Institute for Democratic Education, Inc., 212 Fifth Avenue, New York 10, N. Y.
14. *Poems and Tales of Edgar Allan Poe, Kipling's Just So Stories, Tales of Hans Christian Anderson*. National Council of Teachers of English, 704 6th Street, Champaign, Illinois.
15. *Raymond Massey Reading Lincoln's Gettysburg Address*. Educational Services, 1702K Street, N. W., Washington, D. C.
16. *Vachel Lindsay Reading the Congo and Other Poems*. National Council of Teachers of English, 704 6th Street, Champaign, Illinois.
17. *Sounds Around Us*. Scott, Foresman and Co., 433 E. Erie Street, Chicago 11, Illinois.
18. *Let's Listen*. Ginn and Company, 70 Fifth Avenue, New York 3, N. Y.
19. *Musical Sound Books*. Sound Book Press Society, Inc., Scarsdale, New York.
20. *New Music Horizons*. Silver Burdett Co., 221 E. 20th Street, Chicago 16, Illinois.
21. *Listening Activities*. Radio Corporation of America, RCA Victor Division, Camden, New Jersey.

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Creative Teaching Through Fiction

By LAURETTA G. McCUSKER
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TO BE OF practical value to the individual any knowledge about man and society that schools can impart must be felt and understood if it is to become a part of his actual life. Books of fiction present information about people, places, and events in a readable, interesting fashion and give them reality.

Morris Gall, a teacher in Long Island, says, "For the last twenty years I have been trying to teach American history by the conventional methods of assigning pages in textbooks . . . In recent years we have used such new techniques as films, filmstrips, records, tape recordings, opaque projectors, and such teaching devices as debates and forums, invited speakers, essay contests, and committee reports. These have helped to bring to the students a greater awareness of the meaning of American history. Yet I have found that the subject fails to come to life . . . There is, however, available to the history teacher a resource which can, I believe, breathe the necessary spark of life into history for our children. I refer to the vast riches of fiction literature."[1]

The historical novel is a recognized source of information and inspiration. The rich detail and dramatic incidents of a novel make the event more exciting and significant in the child's mind. The shaping of the Constitution and its adoption are more fully understood after the reading of *Tree of Liberty*[4] than when the reader stops with the text of the history book. Children and young people need to see the human factors which shape history. The textbook serves only as the framework to present the basic truths of history and give events in proper chronology. It needs supplementation.

At every level there are outstanding writers and historians interpreting our history in novels. At the elementary level we have Esther Forbes' *Johnny Tremain,* a book that was a by-product of the rich research she did for her adult biography *Paul Revere and the World He Lived In,* a highly readable book for the high school level. Or *Adam of the Road* that grew out of the research on medieval life and times in England that Mrs. Vining (Elizabeth Janet Gray) did with her husband who was a scholar in this field. At the secondary level such writers as Marchutte, Chute, Samuel Shellabarger, Carl Sandburg, James Street, Irving Stone, Conrad Richter, and many others, whose historical veracity can be relied upon, bring life to the facts of history.

The value of historical fiction in

teaching history is attested to by the many bibliographies of historical fiction prepared and published by teachers. One of the most useful is Hannah Logasa's *Historical Fiction,* arranged by chronological periods from the primitive life of ancient history to the modern life of World War II and after; it is an annotated, selected list for junior and senior high schools. No teacher of history should be without it.

But history is not the only area where fiction may enrich teaching. Science offers many such opportunities. Fiction can lead to a healthy interest and curiosity about scientific events and phenomenon, and can build an enthusiasm for science in the child. Furthermore it can lead to an appreciation of the scientist and technician and of the importance of their work to the welfare of mankind. There is historical science fiction that interprets the life of primitive man such as the anthropological stories of cave men. A recent "primitive" story was Jim Kjelgaard's *Fire Hunter,* a rousing adventure story that interprets man's early mode of life; or *The First Lake Dwellers* by E. G. Osborne published in 1956, that recreates the lives of these early builders of civilization.

Science in fictional form has always been popular. Animal stories rate high on the interest lists of children and young people, and from them we learn many facts of animal habits and behavior. The stories of John and Jean George, of Rutherford Montgomery, of Harold McCracken, and numerous others teach both facts and appreciation of domestic and wild animal life.

Conversation is an important theme in such books as Paul Corey's *Corn Gold Farm,* John R. Tunis' *Son of the Valley,* a story of the T. V. A., and Ralph Bailey's *Tim's Fight for the Valley.* The importance of contour farming, or of a river control project becomes more meaningful when told in terms of human hopes and fears; when Tim is your friend and the success of the project means his happiness and its failure his loss.

In the past few years a new science fiction has come into prominence. It is not a new phenomenon—for Jules Verne wrote "science fiction" when in 1870 he predicted the coming of the submarine in *Twenty Thousand Leagues Under the Sea.* Today trips to the moon are predicted, and by writers who are qualified as scientists as well as writers of fiction: Robert Heinlein, graduate of the U. S. Naval Academy; Isaac Asimov (also writing as Paul French), Assistant Professor of Biochemistry at Boston University School of Medicine; Andre (Mary) Norton, formerly Children's Librarian at Cleveland Public Library, and a student of science; L. Sprague de Camp, Aeronautical Engineer from California Institute of Technology, to name only a few.

Modern science fiction can be used to challenge the ability of the reader to reason, making him think about social as well as scientific problems. Much of the present science fiction is the "Gulliver's Travels" of an earlier day.

There is no area of knowledge that has not found its place in the imaginative literature of fiction. Even practical mathematics can draw on it. At the elementary level a number of the books by Miriam Schlein help with concepts of time, weight and numbers—i.e., *The Four Little Foxes* and *Heavy is a Hippopotamus.* An old favorite of the junior high is David Smith's *Number Stories of Long Ago* written in 1919. A good

list of helpful books for elementary mathematics appeared in the *Arithmetic Teacher,* February, 1956.[3]

Irwin Pages, in *School Science and Mathematics* for January, 1956 gives some interesting suggestions on using science fiction in biology and mathematics for the junior and senior high. The agricultural class might enliven its discussion of soil fertilzation by reading Robert Heinlein's *Farmer in the Sky* in which the young hero lives on a planet where soil must be imported. Whereas careful cultivation and fertilization mean only a better product and more income on our planet, on "Ganymede" it is a matter of life or death.

But the imparting of facts and their understanding is only a part of the teacher's responsibility. Creative teaching must do more. It must aid the student to think about the meaning of his own life, and to perceive the many problems that underlie our political and social life as well. He must be educated in the field of human relations; he must learn about people in environments other than his own. In *Reading Ladders for Human Relations*[2] the compilers say:

"Biography, fiction, and drama-types of literature to which students are introduced in the secondary school—have one thing in common with studies in sociology, psychology, and anthropology: they present concrete examples of many kinds of human relationships. They differ from these studies in two respects that make them very valuable to those who are learning about human relationships in such a way as to translate insight and understanding into skillful and intelligent ways of dealing with situations. Biography, fiction, and drama offer readers an opportunity to identify emotionally with human beings who are in interaction with their fellows. They provide access to the feelings of other people in a way otherwise offered only by face-to-face contacts. Biography, fiction, and drama also offer readers concrete, living examples of human behavior and relationships. They provide occasion for mulling over, interpreting, comparing, and contrasting responses. By this analysis the reader gains insight and understanding of principles that apply to his own experience."

This list is a gold-mine of suggestions for the teacher in the use of literature in teaching. As the title implies it deals with human relations—suggesting books on such pertinent topics as: family life; community contrasts; economic differences; differences between generations; adjustment to new places and situations; experiences of acceptance and rejection; and problems of growing up and of adolescence. Only the best literature is suggested, and the books are listed in ascending order of reading difficulty and maturity level.

In community contrasts, for instance, Virginia Lee Burton's *The Little House* is one of the many titles suggested for the primary reader; Georgene Faulkner's *Melindy's Medal* for the intermediate reader; Nancy Barnes' *The Wonderful Year* for the junior reader; Jade Snow Wong's *Fifth Chinese Daughter* for the senior reader, and for the very mature reader, such books as Scholem Ash's *East River* and Alan Paton's *Cry, the Beloved Country.* All books are annotated and each section is introduced by the compilers with a discussion of the "human relation" involved, and contains practical suggestions for the teacher. The chapter on

"Practical Problems and Teacher Aids" is of particular value to both teachers and parents.

A type of fiction that is of especial help to young people is the novel that focuses on the problems of adolescents. There are many junior novels dealing with this theme and the problem of the parent or teacher is to select from the many, the few that are of real stature and value. One of the most significant is Maureen Daly's *Seventeenth Summer.* Angie Morrow is a wholesome teen-ager having her first love affair. But you see more than Angie—you meet and know her family and her friends. This is the book that a boy asked the librarian in a boys' school to buy because his girl friend wanted him to read it before their next date.

The novels of Mary Stolz are rich in style and content. Anne Armacost in *To Tell Your Love* learns not to wear her heart on her sleeve, and through the experience of her girl friend finds that early marriage brings sacrifice and responsibility along with love and fulfillment. Other titles of equal importance are *The Seagulls Woke Me; Organdy Cupcakes;* and *In a Mirror*—the latter a rather introspective story of a fat girl who learns to understand herself and her craving for affection.

Marguerite Harmon Bro writes equally well for boys (in *Stub, A College Romance*) and for girls (in *Sarah*). A missionary's wife, she knows the universality of young peoples' emotions and *Sarah* and *Stub* have reality for adolescents everywhere.

There are many excellent writers who understand the problems of adolescents and present thoughtful, interesting stories about them. A few such writers are: Margaret Bell, Betty Cavanna (Mrs. Elizabeth Headley), Anne Emery, Grace Erdman, Rummer Godden, Charlotte Paul, James Street, Jesse Stuart, James Summers, Mildred Walker, Jessamyn West and Dan Wickenden.

Educators stress the need for individualized teaching. One of the most effective means of achieving this is to encourage each child to select enrichment books on his ability or achievement levels that parallel the textbook. This allows the child to read material without either being pushed or held back by other children. The teacher will find increased pupil interest and greater freedom to work with individual students.

The following references are of twofold value in that they: (1) Offer a broad range of highly selected materials, and (2) present many practical techniques for and examples of creative teaching through fiction.

REFERENCES

1. Gall, Morris. "Teaching American History Through Novels," *High Points,* Vol. XXXV, December, 1953, p. 60.
2. Heaton, Margaret M. and Lewis, Helen B. *Reading Ladders for Human Relations.* Rev. ed. A. C. E., 1954.
3. Hucheson, Ruth, and Others. "The Elementary School Mathematics Library: A Selected Bibliography," *Arithmetic Teacher,* Vol. III, February, 1956, p. 8-16.
4. Page, Elizabeth. *Tree of Liberty.* Farrar, 1939.

SOURCES

1. American Library Association. *Basic Book Collection Series.* There are three titles in the series—one for elementary grades, one for junior high schools, and one for the high school. All three are being revised this year (1956). Each is a classified, annotated list of books suited for curricular purposes and for recreational reading. Grade levels are given for each title.

2. Association for Childhood Education. *Bibliography of Books for Children.* Washington, D. C.: A. C. E. Issued Annually. "It is a bibliography for teachers and parents to help them enhance their children's reading and to suggest to them literature to share with children." Includes science as well as fine arts and literature.

3. *The Booklist and Subsription Books Bulletin.* American Library Association. Semimonthly. Carries reviews of fiction and non-fiction recommended for school as well as for public library purchase and use.

4. *Experimenting Together Series.* American Library Association. Four titles have appeared covering the areas of English, Science, Music and Home Economics. Each pamphlet discusses teacher and librarian cooperation in making the best and most effective use of books to supplement the textbooks.

5. Fargo, Lucile F. *Activity Book for School Libraries.* Books I & II. American Library Association. Useful suggestions for stimulating the reading of books and the use of the library.

6. Haebich, Kathryn A. *Vocations in Fact and Fiction.* American Library Association, 1953. A selective, annotated list of books for career backgrounds and inspirational reading.

7. Harshaw, Ruth. *What Book is That?* Macmillan, 1948. Useful treasury of fun and information about books. Includes sketches and quizzes.

8. Heaton, M. M. and Lewis, Helen B. *Reading Ladders for Human Relations.* Rev. ed. A. C. E., 1954. See text for description.

9. Kircher, Clara. *Character Formation Through Books*: A Bibliography. Catholic University, 1952. An annotated list of books arranged by age level that have bibliotherapeutic value. Index by character trait and problem approach.

10. Logasa, Hannah. *Historical Fiction and Other Reading References for Classes in Junior and Senior High Schools.* 5th ed. Rev. & Enl. McKinley Publishing Co., 1951. See Text for annotation.

11. Montgomery, Elizabeth Rider. *Story Behind Great Books.* Dodd, 1946.
————. *Story Behind Great Stories.* Dodd, 1947.
————. *Story Behind Modern Books.* Dodd, 1949. A series of books discussing the authors of favorite books and the circumstances under which the books were written. Fascinating material.

12. Munson, Amelia. *Ample Field.* American Library Association, 1950. Book discussion and book lists for adolescents.

13. National Council of Teachers of English. *Adventuring With Books.* N. C. T. E., 1950. ————. *Books for You.* N. C. T. E., 1951. Frequently revised booklists arranged by subject interest for use by students as well as teachers. The first is for elementary grades and the second for high school.

14. *Scientific American Monthly.* The December issue carries a review of the science books published during the year. Reviews fiction as well as non-fiction.

15. *Standard Catalog Series.* H. W. Wilson Co. (Sold on service basis. Cost varies according to size of school). Includes the *Childrens Catalog* for K-7gr; and the *Standard Catalog for High School Libraries* for Jr. and Senior high grades. Also available with Catholic Supplement. An annotated selective list of books for curricular enrichment, kept up-to-date by annual supplements.

16. Strang, Ruth. *Gateways to Readable Books.* 2nd ed. H. W. Wilson Co., 1952. An annotated and graded list of books on all subjects for adolescents who find reading difficult.

17 Walraven, Margaret K. and Alfred L. Hall-Quest. *Teaching Through the Elementary School Library.* H. W. Wilson Co., 1948. The first four chapters of this book give excellent help in selection and use of books in teaching children.

A Map Is Not *the* Territory

By JOHN P. VERGIS

Arizona State College at Tempe, Tempe Arizona

WITH a sigh Tommy opened his dog-eared fifth grade geography book to the map of the United States.

"Find the Mississippi River," said Miss Barkley.

Tommy's grimy finger zig-zagged over the double page.

"Now locate the Gulf of Mexico, the Appalachian Mountains, the Great Plains, and then the Penisula of Florida."

Laboriously Tommy found the words on the map. That was all they were, just words. Words scattered over the surface of a brightly colored diagram that meant very little to him. He learned the terms mechanically and repeated them the same way.

"The United States is composed of forty-eight states." What was a state? He wasn't sure.

"The Mississippi empties in the Gulf of Mexico." What was the Gulf like? He had no idea since he had never seen a body of water larger than a small lake.

"The City of New Orleans is at the Mississippi's mouth." Mouth? What kind of a mouth? New Orleans? Was it like the city near his school? Probably not, but it really did not matter because Tommy and his classmates really were not concerned with what the map represented. They were learning the map as an end in itself. For all practical purposes the United States had ceased to exist.

Miss Barkley's kind of teaching unfortunately is not unique. At one time or another we all have been exposed to it. Think back to your own early map experiences. Remember when you thought countries and states were colored exactly as they were on the map? Recall the "menagerie lions" that made the globe look like a stuffed bird cage? Perhaps you were the one who when asked why a monkey could not hang from the equator by its tail, indignantly replied that the equator was too hot!

All this may sound like kid stuff but unfortunately vast segments of our adult population have absurdly inaccurate ideas of their present day world. Despite the fact that atomic power and rocket propulsion are shrinking the earth at a fantastic rate, these people know little and care less about the inhabitants and cultures of other countries.

George T. Renner, one of our country's leading geographers, has this to say about the situation, "We live in a geographic world. To understand it requires that we be able to do geographic thinking as readily as we read, write and cipher. It is the primary tenet of geography that no situation, social problem, or current event can be adequately understood apart from the natural environmental setting in which it occurs."[1]

1 Renner, George T. "Education in a Geographic World," *Better Understanding and use of Maps, Globes, Charts.* Chicago: Denoyer-Geppert Company, (no date).

Maps are the primary tools of geography. Definitely more concrete than verbal communication, they still are on a high level of abstraction. Adequate understanding of even simple maps requires knowledge based on a great many experiences. These experiences normally begin early in life. They involve the entire environment of children. The space they move through, the air they breathe, the sun that warms them, the rain that waters the plants and washes away the soil are some of the elements a map attempts to abstract. To understand what the map is trying to tell them, they must have experienced either directly or indirectly at some period of their lives all that it represents. It is the job of the home and later of the home and the school to see that these experiences are acquired and understood.

Most educators agree on the manner in which map teaching should proceed. The basic principle is simple. Start with the child and, keeping pace with his rate of maturity, proceed outward in all directions. The purpose of this article is to help facilitate this outward growth especially in its early stages. Exact grade levels purposely have been omitted. Their inclusion would tend to imply that certain methods must be used at times that may not necessarily coincide with levels of ability and understanding.

The development of spatial sense begins with the child's body. He has limbs. They extend into space. He can point to objects and places and he can move toward them through space. In this manner he develops an awareness of his immediate environment in terms of reference points.

Simultaneously he collects a vast amount of facts, ideas and experiences that later will be useful in all the social studies. Some of these pre-geography experiences occur out of school, others should be the result of good teaching and guidance in school.

There are a variety of ways to encourage children to collect the right kinds of experiences. Here are a few procedures that have worked for other people and may work for you. Although they emphasize the study of regional maps, many of the techniques mentioned can be applied to the various types of specialized maps as well.

During early school years encourage children to locate points of reference in their local environment in terms of their desks, the classroom, and the school grounds. Then help them locate their houses, the church, bank, and other prominent points of interest. Have them lay these out on the floor of the classroom with paper-strip streets and wooden block buildings. Do not attempt to teach true scale. It comes much later.

To further spatial understanding take the class on a field trip to the nearest elevation that will permit an overall view of the area that has been modeled. This is very important because for some of the children it will be the first guided total experience they will have had. Points of interest and areas that formerly appeared unrelated now will fall into place. Following this visit the first crude map drawings can be attempted.

During this low-level abstraction of the children's immediate environment a simple globe has been on display in the classroom. When questions arise relating to the earth as a whole (and they will) answer them as simply as possible. The primary function of the globe at this time is to assure the class that it lives on a much larger similarly shaped

ball. As understanding progresses, encourage discussions involving the roundness of the moon and the apparent movement of the sun caused by rotation of the earth.

Be sure the children know what up and down, and top and bottom really mean. Explain that these directions do not exist apart from the people experiencing them. This may be difficult, but, if successful, will help the class understand global concepts at a later time. Fewer children will ask you why people on the "underside" of the world stand on their heads. When understanding of spatial organization has developed sufficiently, explain and locate north, east, south and west and place big cards bearing these words on appropriate walls of the classroom.

As children progress through school, the compass directions that they were quite sure of at an earlier date may become confused. For example, wall maps are extremely useful but due to their vertical nature are misleading. North is always straight up and south straight down. Their use over the years has led to such inaccurate expressions as "up north" and "down south." These misconceptions are so firmly fixed that many children as well as adults have to think twice before they are willing to believe that some rivers can and do flow north.

To correct faulty notions of direction, wall maps can be spread out on the floor occasionally and oriented with true north. Children then can walk around them and become accustomed to seeing them in all positions. To further horizontal concepts, schools can paint large outlines of appropriate maps over their playground areas.

Now it is time to extend the children's horizon and talk about places and things that they have not experienced at first hand. If the local environment has been well handled, this excursion into the unknown should not be too difficult.

Interpret distances as concretely as possible. For example, a town that is 100 miles away is distant in space two and one half hours by automobile and about thirty hours by foot. As the horizon and the map broaden, use more indirect experiences to provide meaning. Motion pictures judiciously used can be invaluable. Of only slightly lesser value is the array of still pictures from study prints and stereographs to slides and film strips. Sand-boxes, display tables, bulletin boards, flannel boards, magnetic boards, and chart collections also are important.

Do not neglect interesting verbal material. Well written, exciting travel stories are always popular. Then there are scores of newspapers and magazines, many of which feature quantities of geographical materials in each issue.

Encourage various kinds of collecting hobbies. Picture postcards, stamps, coins, samples of minerals, interesting products, etc. make maps meaningful. Correspondence with children in distant schools helps with the collections and at the same time provides first-hand accounts of faraway places.

A potentially helpful aid that is seldom used in map study is television. The majority of school-age children watch TV programs an average of three and one half hours per day. Many of these programs deal with geographic facts that can very well be exploited. *I Search For Adventure, Wide, Wide, World,* and *Disneyland* are just a few of the better ones.

Consider the emphasis put on space flight. For the first time in history an entire generation is being prepared for travel experiences that are still in the future. Children in age groups formerly considered too immature to understand the concept of the solar system, now surprise their elders with the knowledge they have gained from TV screens.

During early school years, place a great deal of emphasis on three-dimensional relief maps. Many psychologists believe that the child's visual knowledge of his environment is first acquired through his sense of touch. He quickly learns that objects are soft or hard, dull or sharp, cold or hot, rough or smooth. Until he is mature enough to conceptualize he is never quite sure of things unless he touches them. Actually, this desire to explore with fingertips never completely leaves him.

Relief maps invite tactile investigation. Those within reach in public places such as museums soon have their paint worn thin by thousands of questing fingers. Apparently some mysterious feeling of kinship with the modeled seas, plains, hills and mountains of the earth prompts the exploration.

Even though commercially-made relief maps may be available, encourage children to try their hands at modeling their own. Their interest and enthusiasm will startle you and you will be pleasantly surprised by the amount of information they gain.

To further learning via the sense of touch, take a cue from makers of maps for the blind. Encourage young children to make their paper maps of different textured materials. They can use various grades of sandpaper to designate roads, houses, rivers, bridges, valleys, mountains, etc. Colored textures can be used at a later time to help separate elevations on two dimensional color layer maps.

Aerial sterographs provide another interesting way to achieve an understanding of relief. In areas where they are available obtain sets picturing your own local environment. It is extremely thrilling to look at these stereographs through a stereoscope and see familiar areas assume a third dimension and literally appear to pop out of the flat pictures.

Be sure that the children realize that in order to achieve any observable difference in elevation, the relief map's altitudes are greatly exaggerated. Most of the earth's uplands represented proportionately on a small-scale map normally would be almost flat. For example, the true elevation of Mount Everest on a twelve-inch globe would be about the thickness of this sheet of paper.

At the proper time demonstrate why globes are the only true maps. Show how impossible it is to flatten the halves of a rubber ball. This should lead to a discussion of the various common map projections. Emphasis should be placed on the concept of the air-age map.

Try to make longitude and latitude clear by comparing these abstract lines to streets and avenue. When the comparison is understood, distribute road maps and show the class how to find points of interest by means of locational grid lines. Explain that artificial lines of this type are extremely important in areas where no landmarks exist. As understanding improves, progress to the floor of the classroom or the playground and lay out simulated lines of latitude and longitude. Toy ships and land vehicles can be pulled on strings from line

to line while time and distance are computed. To further the study, show the students how to construct their own globes. This can be done by pasting strips of paper over inflated spherical balloons. Parallels and meridens then are drawn over the dried papier-maché surfaces. These and other elementary global concepts are easier to learn in this manner.

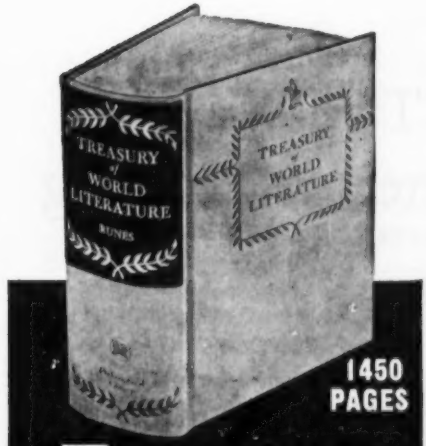
There are many other techniques and devices that can be used to improve children's understanding of maps. To list all of them in an article of this length would be impossible. Actually, it is not always necessary to rely on what others have done. Keep the following four points in mind and devise your own techniques:

1. An accurate understanding of maps is extremely important in today's world.

2. In order to understand maps children must have had a number of direct and indirect experiences.

3. Map study must be geared to the level of children's maturity.

4. Maps are not ends in themselves. They are abstract representations of real places where real people live.



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Encyclopedias: *A* Two-Way Street *to* Learning

By ELIZABETH H. CLARKE,
Librarian, Jane Addams Junior High School,
Seattle, Washington

"I DISCOURAGE the use of encyclopedias in my classes. All the kids do is copy." This statement is often heard among teachers, but it points to a pronounced need for improved teaching of research methods . . . not a rejection of encyclopedias. Naturally we should discourage copying; it is plagiarism. But sets of good encyclopedias form a wealth of background materials in our classrooms, and school libraries should be properly used.

These reference sets offer a two-way street to learning. In the first place, encyclopedias are valuable sources of help for the teacher in the planning of units. They provide information as to what may be taught and frequently trigger ideas for pupil activities. On major topics, they are likely to suggest valuable collateral reading. But even more important, perhaps, encyclopedias can be used directly by the students in their search for facts and ideas related to the unit being studied. Furthermore, encyclopedias make it possible for these students to satisfy their *own* curiosity concerning the world around them.

The biggest problem, as with most streets and highways these days, is the proper guidance of the traffic along this two-way street. Where do we want it to take us? How can we map our way? What are the profits of such travel? What side trips will it take us on?

Mapping Our Route

In order to make the best use of this two-way street and the worth-while sights along the way, we must first map our route. Directions and explanations in the encyclopedia volumes themselves and also in the various manuals furnished by their publishers are guideposts to show us the way. For any journey from which we would gain valuable knowledge, we must lay some definite plans about what we will see and why we should see it. We want to know where we are going and the special points of interest along the way.

Each encyclopedia is arranged a little differently, and we should know the characteristics of the particular sets available for our use. How can we get the most information from the reference books without taking a detour or going too far out of our way? Here are some specific procedures we should use to get ourselves started:

1. Use some of the encyclopedia's special features in planning our class work.
   a. Does the set have a reading or study guide?
   b. Does the set have outlines on certain large topics to show the relationship of materials within the subject?

c. Are there questions following articles which will give us clues to the important topics or points in the article.

d. Does the index give a breakdown of topics under subheads and show where in the set this information can be found?

2. Examine each set of books with our pupils and decide the means by which material is most easily found.

a. Does the set we have use short articles and many cross references or related subjects to lead us to other topics?

b. Is there an index which should be consulted first?

c. Where is the index? In one volume? In each volume?

d. What kind of information can we find in the index? (Here it is important to note that in some indexes all the information to be found about some people or some minor topics is in the index and not in the body of the volume at all.)

3. Show filmstrips on various sets and have the books available with definite problems set up, so the students can get practice in looking up materials. (See list of filmstrips at the end of the article)

4. Use exercises and lessons made up by the publishers or, even better, make up lessons of our own. The more the work applies to the classroom assignment at hand, the better our students will see the reason for such drill.

5. Give practice in deciding on the key words we use in looking up information. This is one of the weakest spots in the use of encyclopedias or of any reference work. Pupils need help in determining which word or topic to look up in connection with what they want to know.

If we follow these introductory methods in our classes, both teacher and pupil will acquire some skills necessary to successful traveling on our two-way street. Traffic will not get too heavy on any one volume if we learn to plan our work so that many volumes can be used at the same time in pursuing one lesson. Good planning is important to the ultimate learning in any assignment.

Profits of Travel

We cannot expect our students to master the use of encyclopedias on the first trip. They must have many trial runs and be taught the best way to locate information. Even more important, they must be helped to make the best use of materials they find. There are many more ways to use information and data than just the "look up and make a report" type of assignment. In fact, it is our duty as teachers to vary the kind of activity and to teach organization skills in making intelligent use of any reference works.

One way to combat the copying bugaboo is continous instruction in such skills as skim readings, reading for specific detail, notetaking, outlining, summarizing, and paraphrasing. A student must be trained to look for the exact data he needs and to take down *only notes*, not whole sentences, paragraphs and articles.

Good research habits which students can use all their lives do not come naturally; they must be carefully nurtured, developed and firmly established. Natural curiosity can very early motivate a "look it up" habit, so that pupils locate facts on which to base judgments or statements. This desire to be accurate,

however, must eventually mature into the more complex skills of finding, interpreting, and organizing many facts into a unified and original report. This completed report may be written or oral; formal or informal; in words, in pictures or in objects; but it should always be a new and creative piece of work.

As a student progresses along this road of learning, he can also mature in his choice of the encyclopedia or reference works most suited to his abilities. Publishers have produced encyclopedias on various reading levels. There are sets written especially for elementary schools; then others, which should be added to reference collections in junior and senior high schools since they are on the adult level. The student's horizon should be broadened more by his travel on our two-way street.

Feeder Roads and By-Ways

As a student continues along the road to a better education, he should also discover that the encyclopedia is, of course, not our only source of information. It can be used in many ways to lead us to other materials, and, using our two-way street again, those other instructional materials will bring us back to our encyclopedias.

Let's investigate this relationship to other avenues of information:

1. There are many *bibliographies* in encyclopedias which will lead us to other books dealing in more detail with our subject.

2. *Cross references* will give us ideas for subject headings to look for in the card catalog of the library.

3. *Related subjects* will point the way to other interesting fields of knowledge.

4. Encyclopedias enrich the limited materials of the *textbook* and show the relationship of the text material to the larger field of human knowledge.

5. Encyclopedias provide us with background material to study before viewing *films and filmstrips* or *TV programs*. They also answer questions raised by these same visual aids.

6. Encyclopedias should be supplemented by later, up-to-the-minute articles in magazines indexed in the *Readers Guide to Periodical Literature*. *Magazine and newspaper* reading may also send us back to encyclopedias for historical or basic information.

In other words, this two-way street is not a limited access freeway . . . it has many avenues feeding into it and will lead to many more by-ways which students will want to explore.

The encyclopedia covers all fields: archeology and automation, U. S. or U. S. S. R., simple addition or algebra, hemstitching or hockey. It's all there. Diagrams, charts, illustrations, maps: illustrative materials for every topic and field we may want to teach.

No matter what we teach or seek, there is something for us and our pupils in this two-way highway to learning. It is a broad, fine, smooth, superhighway, with a chance to turn off here and there on a pleasure excursion. Let's show our pupils how to use the traffic signals and guideposts to keep them on the main road to a fine education.

SELECTED TEACHING AIDS

Available from *BRITANNICA JUNIOR*, Encyclopedia Britannica, 425 North Michigan Avenue, Chicago, Illinois.

1. *Why an Encyclopedia.* A Filmstrip for teachers to show how an encyclopedia can broaden and enliven the total school program. (Available on loan. Can be purchased for $1.00)

2. *How to Use Britannica Junior—Chart.* Compiled under direction of Dilla McBean, former Director of Libraries, Chicago Public Schools. Designed to help teach the basic reference skills. (Free)
3. *Guide to Britannica Junior.* Exercises to develop basic reference skills. These lessons may be used as a suggestion to teacher or a class to prepare exercises of their own of similar nature built around the topic of current interest to the group. (Free)
4. *How to Use the Ready Reference Index of the New Britannica Junior.* Reprint taken from Volume I, Ready Reference Index. (Free)

Available from *COMPTON'S PICTURED ENCYCLOPEDIA,* F. E. Compton and Company, 1000 North Dearborn Street, Chicago 10, Illinois.

1. *Filmstrip—How to Use the Encyclopedia.* Available for thirty days loan or it can be purchased. Shows how to use the modern encyclopedia with an index. Price $3.75.
2. *Question—Exercises.* Six different sets of questions to be used after showing the filmstrip to see whether pupils can use the encyclopedia. One group of questions (Series A) is for Grades 4, 5, and 6. The second group (Series B) is for Grades 6-9. (Free)
3. *Know Your Encyclopedia.* A manual with exercises for the teacher or librarian to use in teaching the use of *Compton's Pictured Encyclopedia.* (Free)
4. *Compton's at Work in the Classroom.* A 48-page service book which gives dozens of practical examples of best classroom practice in using an encyclopedia for teaching basic skills in language arts, science, and social studies. Many examples are given which show how an encyclopedia can enrich every curriculum area and solve many teaching problems. (Free to teachers)

Available from *THE WORLD BOOK ENCYCLOPEDIA,* Field Enterprises, Inc., Merchandise Mart, Chicago 54, Illinois.

1. *Filmstrip—Exploring TV.* Developed in cooperation with the World Book Encyclopedia. For use in junior and senior high school classes to introduce fundamental procedures of research. 48 frames. Order from: McGraw Hill Book Co., Text Film Dept., 330 W. 42nd St., New York, N. Y. (Price $6.00)
2. *Filmstrip—Circus Fun.* For use in the primary and middle grades to introduce ways of reading-to-find-out. 45 frames. Source same as above.
3. *How to Use an Encyclopedia.* A manual designed for teachers and librarians to help them give pupils instruction in quick and effective use of a reference set. Many practical problems bring out features of encyclopedias which everyone should know. (Single copies free on request)
4. *Look-It-Up Books, Books I, II, III.* Lessons with exercise to introduce the use of encyclopedias to boys and girls, grades 3-8, (Single copies free upon request)

FOR YOUNG READERS

ALL ABOUT MOTHS AND BUTTERFLIES. By Robert S. Lemmon. N. Y. Random House. 1956. $1.95.

ALL ABOUT SNAKES. By Bessie M. Hecht. N. Y. Random House. 1956. $1.95.

Here are two more volumes in Random House's series, "All About" books. Most youngsters in grades 4 and 5 will be able to read these books and those from grades 4 to 10 will find the contents of each highly interesting. Both books have a lively text and both have very colorful illustrations. They constitute a fine contribution to the scientific study of nature.—PAUL ZANKOWICH

THE WEST POINT STORY. By Red Reeder and Nardi Reeder Champion. N. Y. Random House. 1956. $1.50.

The story of West Point is brilliantly told in this book which reaches back to Revolutionary days and carries the story down to the present. Youngsters will enjoy reading about the history of our Military Academy and learning just how it operates today.

—PAUL ZANKOWICH

THE WITCHCRAFT OF SALEM VILLAGE. By Shirley Jackson. N. Y. Random House. 1956. $1.50.

The sad story of Salem is vividly told in this exciting book. It all began when a group of young girls from nine to nineteen formed an informal club. The furor that followed the wild tales and charges of these girls is a sad blight upon our history. The story of the episode is, however, not without interest.

—PAUL ZANKOWICH

The Opaque Projector—*A* Real Aid

By F. A. WHITE,

Assistant Director Bureau of Audio-Visual Instruction, University of Wisconsin, Madison, Wisconsin

"HOW I WISH all my students could see this!" Is there a teacher who hasn't made this remark as she looked at a sample of a student's work, a picture in a magazine, a map in the newspaper, or a diagram in an advertisement? The teaching value of such material is clearly and constantly recognized, but the teacher is baffled by the fact that its small size makes impossible simultaneous viewing by an entire class. Yet there is a way of making printed and graphic material, even as small as a postage stamp, completely visible to a whole class. The opaque projector is the answer.

The opaque projector is a relatively simple and far-from-new device which makes it possible to project on a screen an exact image of any written, pictorial, or graphic material. For example, this page could be so projected and, if desired, the projected image could be twelve feet square or larger. Thus, it could be observed simultaneously by an entire class. Similarly, a full-color illustration from a magazine could be projected, and thus contribute its clear and complete concepts to the group-learning situation.

Probably the major use of this interesting teaching aid is to project the wealth of pictorial and graphic material available from the many "paper" sources of today. Animal and bird pictures of extremely high quality are easily found, assembled and shown. Excellent reproduction of works of art can be collected for viewing. The home economics field has an unlimited amount of colored pictures showing home decoration, table setting, color harmony and clothing styles. This gathering together of material can be done by the teacher alone, or it can be done cooperatively with the class. The reading readiness area is full of beautifully illustrated story books which can be projected and read as a group project, thus satisfying the youngsters' desire to see as well as to hear. There is a wealth of projectable material in practically every teaching area.

A second use of the opaque projector is for the reproduction on the chalkboard, or on paper, of graphic material which is too small for class viewing. Thus, for example, a map can be projected onto the chalkboard or onto newsprint or wrapping paper and traced off accurately in a matter of minutes. The world of today is one in which maps are of increasing importance, yet they are constantly changing. Up-to-the-minute maps from daily papers and weekly news magazines are often extremely significant for class use. School-made copies become very valuable in the teaching-learning process. The size of the traced map can be changed easily by simply changing the distance from the projector to the chalkboard or tracing paper.

The same project-and-trace technique can be used with diagrams and pictures. Students who seldom excel or get the satisfaction of a task well done can do a good job using this procedure, and thus it often produces concomitant learnings beyond those normally expected.

A third, and less obvious but very important use of the opaque projector, is for the in-class projection of student work. It has long been recognized that "doing" is an important part of "learning." Thus teachers of language arts, including English composition at the high school and college levels, invariably have their students write paragraphs, stories, descriptive materials, themes and so forth. Once the material is written, the teacher is faced with the problem of how best to make the evaluation and improvement of the material meaningful to the student. This has never been accomplished in an easy manner. The teacher has had to spend endless hours reading the material and writing in corrections and comments. All too often such careful work by the teacher goes for naught as the student takes a look at the valuative mark given and discards the paper without any benefit from the written suggestions of the teacher. Teachers sometimes require that such work be done over, making use of the corrections and suggestions. To most students this is a tedious requirement and, if done too often, there is danger of building up negative attitudes. Teachers also use individual conferences with students either during classtime or outside class hours, which is an effective procedure. However, it is time consuming beyond belief and, in view of today's heavy teaching loads, simply can not be done frequently. None of these methods is in any way a class participation situation, and thus the balance of the class obtains no benefit. The opaque projector, however, makes possible the use of classtime for criticism of student's work. Papers can be projected, and thus the whole class shares in the experience of analyzing them. First of all, the whole class as well as the teacher can examine and read the work and comment on the points of excellence and the areas in which improvement is needed or possible. Thus, not only the student writer but the entire class can learn through the in-class participation situation.

A motivational force enters into this type of a teaching-learning situation that is ordinarily not found in other teaching methods. Evaluation of work is not only by the teacher but also by the peer-group. Many students are relatively unconcerned with what their teachers think of them or their work. It is a rare person, however, who is not anxious to be regarded as highly as possible by his peers. Thus, announcing that a set of papers is to be projected before the entire class and, explaining the procedure by which they will be evaluated, can be an incentive for some of the best work of the year.

When handwriting is hard to read, when misspelled words cause errors in interpretation and poor grammar produces confusion, the student can see a real and immediate need for better penmanship, correct spelling and grammar. At the same time a wise and understanding teacher can always find some qualities of the material which can be praised and the student gets the much-needed satisfaction of praise for something well done.

Certain undesirable possibilities may

be avoided if assignments include the statement that the work is to be projected for the whole class to see. Ordinarily the work should not carry student identification that is visible when projected. Then, if desirable, the material can remain unidentified.

This method of teaching can be used from the lower elementary level to the college level. Whether it is more effective at one level than another has not been determined. College English instructors, however, are coming to rely on the opaque projector. Some demand a teaching room permanently equipped with an opaque projector. Their students report it is used every day and that this is a most effective way in which to teach and to learn to express oneself in writing.

The opaque projector can be used equally well to project completed assignments in such areas as arithmetic, art, and mechanical drawing. In arithmetic, especially, where again the typical procedure is to check for correctness only with little or no time spent in determining why certain errors are made, in-class projection and discussion can pay big dividends. As one pupil's work is made easily visible to everyone, and is discussed and corrected, all the pupils gain practice, insight and skill in the fundamental operations involved. Here, again, approval by his peers will provide an additional incentive to produce neat and correct work and thus result in improved learning.

Some words of encouragement are usually necessary to get teachers to use the opaque projector. Its bulk and apparent weight are far less of a handicap than might seem to be true! The projector should be on a projector stand with wheels and should be brought into the classroom before the teaching period starts so that no movement is necessary to begin its use. Whatever movement is necessary before or after the teaching period can usually be made by students who are eager to help and who, again, may find this type of participation one of the few ways in which they can actually excel. Even if it must be carried manually, it is really not heavy enough to discourage a teacher who is seriously interested in doing the best possible job of teaching.

A word of warning may be needed concerning the light conditions under which an opaque projector will operate effectively. More than any other projector it requires a darkened room. This means that some type of light-tight shades or drapes should be installed in the room where the opaque projector is to be used. Good practice insists that this be the regular classroom. To be sure that the proper light conditions exist and that the teacher is able to handle the projector easily, the projector should be tried out under typical light conditions. Only by doing so can a teacher be sure of the good teaching-learning situation.

The opaque projector is a long-lasting piece of equipment. It makes use of the quantities of available free visual material. It can be used in a countless variety of ways and situations. It permits every teacher to employ it in an individual manner adapted to that teacher's own way of teaching. Its use is limited only by the imagination of the teacher.

Let's Put Instructional Games *to* Work

By GUY WAGNER
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CHILDREN seem to learn more readily and with greater enjoyment when they have access to a variety of good teaching aids. And why shouldn't they! They have an important job to do which, for efficiency, demands the best in learning materials. This article is designed to emphasize the importance of *instructional games* in the learning process and to make some practical suggestion for their use.

When the term *instructional games* is used, there comes to mind two rather distinct kinds. First, there are the commercially-prepared games which are normally purchased for use in the home. These are often purely of a recreational type and would have little value in the classroom except perhaps at recess time or during the noon hour. The writers have found, however, that many commercial games do have instructional value especially in the so-called academic subjects. Schools might well make judicious use of such games as *Parcheesi* in the arithmetic program, *Consonant Lotto* in teaching phonics, *Zoo Parade* in teaching science, *Across the Continent* as a learning material for social studies, and *Spell It* for motivating interest in spelling.

The second and by far the more important type of instructional games might be called "teacher-planned"—those which are designed or adapted by the classroom teacher for use with her particular pupils.* Oftentimes the children themselves "come up" with an interesting adaptation of a familiar game and sometimes they create stimulating ones of their own. In classrooms throughout the country teacher-planned games of this nature are used in varying degrees. Some teachers think them to be of little value while others are "sold" on teacher-planned games as an im-

* It is not expected that the classroom teacher will spend an inordinate amount of time in preparing materials to be used in the teacher-planned games. Such work should be done by pupils, within reasonable limits, with assistance from a "Teacher Aide" if one is available.

portant way of learning. The authors are inclined to agree with the latter, while at the same time they recognize that the "game" way of learning is only one approach and should be used judiciously as a member of the instructional materials team. They also believe that the use of games is not an attempt to "sugar coat" education; rather it is an efficient device for helping make school life more purposeful, and learning more meaningful.

In considering instructional games for classroom use, we should ask one simple question, "Would this particular game make teaching more effective and pupil learning more efficient?" The first step, therefore, in using instructional games is to make selections only in terms of their obvious teaching values. When wise choices have been made, experience indicates that the question is HOW can these games best be used rather than SHOULD they be used.

Classroom organization should provide for individual, small group and class instruction. For the teacher who cherishes the principle that individual and small group relationships foster better learning, there are instructional games which give children many opportunities to learn with marked success.

Values of Instructional Games

No teacher would believe that all learning *must* be presented as a game. No teacher would suggest that all learning can be accomplished with games. Furthermore, no child expects all learning to be fun and no child wants to play games all day long. But both teachers and children want their classroom to be a happy place in which to work, and they certainly don't object to working conditions being enlivened by the planned diversion of an occasional game. Instructional games can facilitate learning for a pupil while giving him ample rewards in terms of interest, and a variation of what is sometimes monotonous routine.

Children enjoy participating in games. They will give undivided attention and interest to a game while making a sincere effort to contribute to the best of their ability. Why will they do this? A close examination of games usually will show that the child gains status or success through playing the game. Some of the basic psychological drives are satisfied through participation in the game.

Games afford many opportunities to present desired learnings or to give additional repetition or drill in a variety of ways. Because of the many settings in which the same learning or skill can be practiced, the pupil's interest is maintained. Instructional games can give, in an interesting way, the additional practice necessary to "fix" certain learnings. They can eliminate meaningless repetition and rote learning. The pupil will display that characteristic which is essential in any learning situation— INTEREST!

Sometimes a game may help a pupil develop an insight that cannot be gained as well by another method. Instructional games add a sense of visualization to the learning process and often give purpose to learning. Many of these games are self-teaching and can be carried over into home activities.

Perhaps the greatest value which can be claimed for instructional games is that of motivation. Has any elementary teacher had to plan long hours and devise various ways to *motivate* a game? The answer is that games "worth their

salt" are largely self-motivating. Because children inherently like games and can learn efficiently from them, their proper use in the classroom needs little other justification.

Developing the Classroom Game File

The wise teacher will search for, examine, and use instructional games, both commercial and teacher-planned. She will be very selective, setting up her own criteria for evaluation. She will freely but carefully adapt the games according to the needs, interests, and abilities of the child or group. She will construct games for her own particular children.

Some successful elementary teachers develop their own card file of games. They may follow this formula:

1. Games should be stimulating for the slow learner, enriching for the gifted learner, and an inducement for all.
2. The descriptions of the game should be brief and clear.
3. Each game should be tried in the classroom before it is added to the teacher's file.
4. If possible, include a drawing or illustration on the card.
5. Indicate any danger spots or cautions in using the game.
6. Include games in many academic areas: listening, writing, speech, reading, functional grammar, arithmetic, science, social studies, and spelling.
7. Include desirable adaptations.
8. Indicate the grade or performance level at which the game is best suited.
9. State the purpose or objective of the game.
10. Determine the number of players which may effectively participate in the game.
11. Tell the materials necessary for playing the game.

The Curriculum Laboratory, Iowa State Teachers College, has developed the following design for constructing a game card. An extensive file of instructional games, in many curriculum areas, is available for use in the Laboratory.

SUBJECT Grade Level TITLE

Purpose:

Players:

Materials:

Directions:

Adaptations:

Cautions:

Below is an example of how a game is written on the game card:

ARITHMETIC Grade III CIRCLE THROW

Purpose: To give practice in multiplying one digit numbers

Players: Two to six children

Materials: (1) A paper circle (tagboard or butcher paper) three feet in diameter. Divide it into ten wedges and write a number from zero to nine in each section.
(2) Ten two-inch blocks of wood numbered zero to nine.

Directions: "It" selects a block at random, walks to the boundary line which is four feet from the circle and tosses the block on the circle. The object is to multiply the number on the block by the wedge number on which the block landed. "It" may play until five correct answers are given or until he gives an incorrect answer.

Adaptations: (1) Two or three competings teams could be used, the winner being the one that first scores twenty-five correct answers.
(2) The same game could be used for addition of numbers.

Cautions: (1) The game would probably become boring to children who have already mastered their combinations.
(2) If competing teams are used, the talent of each team should be fairly well balanced.

The experienced teacher knows that all classroom equipment gets some rough handling at times. Well-prepared games will take a little more time and effort to construct but they will last much longer and will be more fun for the children to use. Make sure that the paper which is used for construction of games is of heavy quality so that it will not tear or bend easily. Games should be attractive and durable and should be stored in a sturdy container. A cracker, cigar, or shoe box and large manila envelopes are good for this purpose.

Manuscript writing may well be used for the handwritten cards, charts, directions and the like. Much attention should be paid to the spacing between the letters and the spacing between the words as well as to the size of the lettering. Use a felt point pen or a marking pencil for this writing.

Each stage of teaching will necessitate different types of instructional aids. Through study and experience each teacher will discover the effectiveness and appropriateness of each type of aid needed for a particular learning level.

Some Teaching Tactics and Guides

The extent to which instructional games are used in the elementary classroom depends on the good judgment of

the teacher. It is up to her to maintain a reasonable middleground between their overuse and their complete absenses. At this point, teachers should develop a few guidelines which will serve to give direction to the instructional games program. Closely related to these guidelines will be the ways in which she uses the games for teaching purposes—the "teaching tactics" which will make the games contribute most effectively to the instructional program. Following are some guidelines and "tactics" that experience has shown the writers to be important:

1. Carefully explain *why* the game is being played. Let children know what the real goals are, i.e. LEARNING, not just FUN is the real goal.
2. Give directions for playing the game so that all children understand. Perhaps some games should be explained to small groups at a time rather than to the entire class. Play a "sample" game to teach children the correct way of playing.
3. Games must help in the achievement of classroom goals.
4. Games should enrich or give needed practice and interesting repetition to classroom learning.
5. Games should enlist mental activity and concentration for all, rather than passive observation, even though only a few children are participating.
6. Some games should permit even the slow learner to win. That is, the winner should sometimes win on a basis of chance; not always on the basis of skill.
7. Children should be able to act as leaders in most of the games, especially at the upper grade levels, and should play many of the games without teacher supervision.
8. Always stop playing a game while the children still have a desire to continue play. Avoid "working a game to death."
9. Stress good sportsmanship in playing games. Many times there can be only one winner. Help the children be good losers and gracious winners.
10. Encourage children to make their own instructional games; ones that follow sound educational practices.
11. Avoid games that have long, complicated, or vague directions.
12. Games which take a long time to complete may be less attractive and effective than those which move along rapidly. (However, some children, especially the gifted may be interested in the more involved and longer games).
13. Games are intended to reinforce, not replace, work in the textbook.
14. A particular game should be chosen not at random, but because it will help an individual child or group.
15. Work standards for using and playing games should be developed cooperatively with the class.
16. The game should be used to provide self-competition rather than competition between individuals of different abilities.
17. Many games may be adapted to the needs of a child or a group by changing the vocabulary or some of the rules of the games. *Adaptation* rather than *adoption* of the game should be the rule.

18. Games should promote group loyalty through cooperation and respect for others.
19. Some games should be "teachable" for use in the home as well as at school.
20. Each child should be taught how to join a game already in progress.

Housekeeping details will become apparent when instructional games are used. The problems of using, returning, and storing these materials are most effectively dealt with by the simple routine of the classroom. Each pupil should know how and at what times he may borrow a game and how to put the material away.

The teacher can set aside a shelf or table for the enrichment materials. A pupil-helper can check to see that the shelf or table is kept in neat condition as a part of the daily housekeeping duties. He should also remove the games that show signs of wear.

Mature and capable children can be designated as game leaders to whom their classmates might turn for help or information. Every so often there should be pupil and teacher discussion for the purpose of judging the present value of the game. "Is it still useful, or has it served its purpose?"

To make sure that a child chooses a game that best meets his needs, each game should have a simple indication on its cover that shows what skills are emphasized in it. All games concerned with one skill could have the same mark or symbol on the outside cover. Thus a child could be told that he might choose from among certain marked games.

Occasionally, add a new game to the shelf. It might be a good idea to rotate the game so that the children will not tire of them quickly. Boredom is not so much a problem, however, if the children use interesting and challenging games that meet their immediate needs.

A Forward Look

A look at schools in 1957 reveals that many changes have taken place since the turn of the century. Certainly there is a marked difference in the ways of disciplining children. The school buildings themselves, with their many special interest areas, are a marked contrast to the schools of a half-century ago. Within the classroom, bulletin boards have taken much of the space formerly occupied by chalkboards, fixed seats have given way to movable desks, and the whole field of audio-visual education has moved in to give more reality and purpose to learning. Although the textbook remains as the single most important learning tool, it too has had a remarkable transformation chiefly in terms of unit patterns, improved mechanical features, changed content, and better and more graphic aids.

The traditionalist is likely to be disturbed when new things come into the teaching picture. And the traditionalist often has a good effect because through his critical questioning of the new, he may help prevent undesirable practices.

On the other hand, good teaching will always mean alertness to better teaching tools and better ways to help children learn. The choice and creation of helpful instructional games means that there will be some improved teaching tools available; and proper use in the classroom means that there will be more effective learning. As one of the important members of the instructional materials team, instructional games might well be given a fresh look, and a fair opportunity to play their part in the ever-exciting drama of teaching children.

The Use *of* Graphic Materials *in* Teaching

By JAMES S. KINDER

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THERE ARE few, if any, instructional materials which have the flexibility, motivational power, and the outlet for creativity which graphic materials have. They are inexpensive and are suited either to group or individual work. Many of these materials are made by teachers and pupils.

Graphics have become practically a new science. They are a form of communication with great mass appeal. On every hand, we see a multitude of drawings, sketches, designs, diagrams, charts, graphs, arrangements of lines, forms, color combinations, exhibits, and displays. All these materials have at least one thing in common. They are functional art. They also have in common such general purposes as getting attention, clarifying ideas, presenting or "selling" ideas, illustrating or adorning facts or things which might otherwise be unnoticed or quickly forgotten.

Graphics are important to schools, teachers, and pupils. They have become just as noticeably important in business, industry, government, advertising, marketing, and in practically all walks of life. Anyone who reads the advertisements in street cars or subway trains is struck by the great amount of graphic materials consumed by the public. Government bulletins and reports which used to be dry-as-dust are now spiced with charts, graphs, and pictorials of intriguing variety.

Primitive man drew pictures before he developed hieroglyphics, visual symbols of things, and forerunners of the alphabet. In spite of the fact that language is a wonderful and powerful invention, and indispensable to modern civilization, man is still fascinated by pictures—handdrawn or photographic.

The term *graphics* embraces a large field which means *to give visible surface to a natural or an imaginary scene, object, or incident through the graphic arts.* The word "Graphic" comes from the Greek, meaning *to write or to delineate by painting, writing, drawing, sketching, or diagramming.* The graphic arts have been practiced by etchers, engravers, and lithographers for years. New forms are being developed all the time. Charts and graphs date back to the use of mathematical principles of coordinates and Descantes' analytical geometry. In recent years, graphics has expanded to encompass much that is of a poster, cartoon, or line display character. Most of the material which goes onto the chalkboard, bulletin board, or feltboard is graphical in character.

Haas and Packer say, "Maps, charts, and diagrams have been named the 'spark-plugs' of visual training because they are easy to make and are effective devices for instruction. Extensively used in every type of industrial organization, by business concerns, in agriculture, and in many other types of instruction

[schools], these teaching aids make dry often meaningless facts more understandable and interesting."

Drawing and Sketches

Children like to draw, and most of them have an aptness for expressing themselves. Their drawings may be absolutely meaningless or grotesque to adults, but to the children themselves they convey a message. The drawings are explained in a manner that is perfectly logical and meaningful to them. Somewhere along the line from childhood to adulthood, people lose their ability to convey ideas by drawing. They become self-conscious, fear ridicule, and abandon this aspect of communication almost entirely.

Teachers who do not make satisfactory use of the chalkboard and other forms of room display, rationalize by saying that they can't draw, that they have no talent.

Some teachers shudder at the idea of teaching even the simplest drawing to children. They are embarrassed to use what little skill they have in their teaching, and it simply is not realistic to expect them to go back to school and take an entire art program. There are, for these people, many short-cuts, or types of "visual shorthand." One is the increasingly popular stick figure drawing. Anyone can develop a few skills with relatively little practice. A simple drawing primer or manual can be helpful. This is not a plea for an artist in every classroom, but for just enough skill to clarify ideas that crop up as a part of everyday learning experiences. Patience plus some practice and a knowledge of a few simple rules are all that is necessary to do satisfactory stick drawing.

There are certain mechanical aids to assist teachers who feel that they cannot do freehand drawing. They may copy on glass or cellophane for slide projection or for use in an overhead projector. The opaque projector will enable the teacher to enlarge small pictures for copying on chalkboard or paper.

The method of proportional squares is also practical and within the abilities of every teacher. It will work equally well for making a poster, chart, or for reproducing many kinds of pictures on the chalkboard.

Diagrams

A diagram is a drawing which makes use of lines and conventionalized geometrical symbols, but uses no pictorial elements. Because diagrams are highly condensed, they are usually quite abstract or symbolical. Often a diagram is difficult to understand unless the reader possesses a background for the interpretation. Yet, difficult as the diagram may be, it must clarify meaning or not be used.

Practically every curriculum can, and does, use diagrams at one time or another. Some fields would be hard pressed to get along without them.

Industrial arts, engineering, and shop work abundantly use diagrammatic drawings. Engines, flow of electricity, magnetism, vectors, stresses and strains, and all kinds of machinery and equipment can be explained best with supplementing diagrams. Architects, engineers, designers, and builders use blueprints as one of the tools of their trade.

In mathematics and science, diagrams play an important part. Schematic diagrams are widely used in physics, general science, botany, anatomy, astronomy, and chemistry. Attempts to illustrate the theory of probability, for ex-

1. Haas, Kenneth B., and Packer, Harry Q. *Preparation and Use of Audio-Visual Aids*, Third Edition, N. Y.: Prentice-Hall, Inc., 1955, p. 93.

ample, will in all likelihood call for some sort of diagrammatic device.

Social studies, too, use diagrams, but somewhat differently. Here they help students get clearer pictures of relationships between social agencies, cultural patterns, functions of individuals, patterns of society, and the work of institutions. The interrelationships involved are often complex. Diagrams, charts, and graphs will help explain them.

Charts

Charts are defined as visual devices which combine graphic and pictorial representations for the purpose of summarizing, arranging, comparing, or contrasting data. The term chart is loosely ly used to cover many forms of graphics, such as graphs, some types of maps, outlines, diagrams, and even such forms as information in lists and tables. Among the words used to describe them are developmental, organizational, pictorial, progress, skill, tabular, stream, and experience. These charts are familiar to most teachers.

Graphs

Graphs are lines, diagrams, symbols, or pictures arranged to show quantity, development, function, or relationship. They are constructed upon definite mathematical principles; charts are not. The last decade and a half have seen an unusual interest in the use of graphs in business, science, government, and industry. Several splendid new types have been developed.[2]

Posters

The poster is one of the older graphic devices which is so common that it may seem unnecessary to include it. Yet, to omit it would be analagous to describing the human body without mentioning the eyes.

The purpose of a poster is to catch the attention of a passer-by long enough to impress a single idea on his mind To do this, poster-making embodies such principles as:

- Simple structure
- One idea
- Accents in color
- Concise, pithy, apt slogans
- Bold, clear lettering
- Variety in motif
- Balanced (formal or informal) composition

In addition to the above principles, good posters require careful planning. A good poster usually relies on some sort of related symbol to help convey the idea cogently. For example, a travel poster may use a symbolized traveling bag, or a train, or an airplane. Size of poster is to a large extent determined by its purpose and its location. A commonly used size is 22" x 28". Letter sizes, too, vary—one-inch letters are suitable for close viewing, one and one-half inch for moderate distance, and two-inch letters for longer distances or for impressiveness or use on giant-size posters. Capital block letters, heavy and bold, seem best. Trick letters cannot be read easily and are confusing. Letters may be cut out of contrasting colored paper, or they may be hand drawn. In most instances, children should be encouraged to cut letters and designs from poster paper without detailed preliminary sketches or hand-drawn designs.

Posters, like bulletin boards, *should not be displayed too long.* If left up too long, a poster, no matter how good in the beginning, loses its effectiveness.

2. Speer, Mary E., *Charting Statistics.* New York: McGraw-Hill Book Company, 1952.

Construction of Graphic Materials

Commercial concerns make many kinds of graphic materials for sale. Schools are limited buyers of pre-fabricated graphics. They buy those complex charts and diagrams which they cannot make, but on the whole, they buy the raw materials and construct their own.

Alhough acceptable graphics can be made from wrapping paper and cardboard boxes, more artistic ones require better materials and supplies. The following list of materials and suggestions for construction should improve school graphics.

Materials and Supplies

- Drawing board
- T-Square
- Ruler
- Masking tape
- Soft pencil or charcoal
- Drawing pencils (H & F)
- Colored pencils or crayons
- Inks and poster colors
- Lettering brushes
- Erasers; art gum
- Oil paint
- Triangles, 30°-60°-45°
- Gummed or cardboard letters
- Colored cellophane tape
- Lettering and rulling pens
- Construction paper (several kinds)
- Detail paper
- Corrugated display cardboard
- Pantograph (in some cases)
- Scissors
- Paste
- Dry mounting tissue

Techniques

- Make graphic aids large enough to be seen easily by all members of the class.
- Decide on a standard size and hold to it in most instances. It facilitates handling.
- Present only one idea on a chart
- Leave plenty of open space. Artists say the open space should equal the filled-in space.
- Use contrasts of dark on light or vice versa, or use harmonious color shades.
- Enlarge when necessary by using the opaque projector or a pantograph.
- Make a scaled working sketch in miniature before embarking on large graphics.
- Use brief and crisp titles.
- Put graphics in partnership with other learning devices—texts, pictures, films, trips.

Criteria

- Simplicity
- Readability
- Manageability
- Realism
- Attractiveness
- Appropriateness
- Accuracy

School administrators might well consider making up "graphic kits" for teachers. These kits could be checked out for use at school or home. The cost to the school would be slight, but the advantage of having a complete kit of materials would be worth much to better instruction, because as Rachael Goetz says, "Good graphics tend to be more *noticeable*, more *memorable*, and more *action-stirring* than unadorned facts."[3]

Graphics, like clothes, should not be worn too long. They need to be changed; *they need variety*.

3. Goetz, Rachael M., *Visual Aids*. Chicago: Administrative Service, 1954, p. 43.

Meeting Library Needs Together

By LINDA C. SMITH
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AN ADEQUATE school library has long been recognized as a necessity at the secondary school level, and the elementary school library is fast acquiring this desirable status. By 1954, all but two states had established standards or recommendations for secondary school libraries and thirty states for elementary school libraries. State requirements have been heavily influenced by various accrediting agencies: directly, at the secondary level; indirectly, at the elementary school level.[1]

Certain trends have developed along with the widespread extension of library standards. There has come to be greater emphasis on the functions and services of the library rather than, as formerly, on quantitative requirements.[2] There is also a growing tendency to depend upon faculty committees to share with the libraries the responsibilities for policy-making and for library improvement.

It is the purpose of this article to suggest some specific practices which have facilitated the functional use of the library and its services. Some of these suggestions can best be carried out by the classroom teacher, some by the librarian, and some by the cooperative effort of the librarian with one or more teachers.

In some schools the librarian has jurisdiction, not only over the library, but also over textbooks and supplementary materials throughout the building. In other situations all the books are in the classroom and the teachers are fully responsible for them. Then again, certain collections may be housed in the principal's office, available for reference or special uses. It is with these varied situations in mind, and with a belief that teachers and librarians have a common desire to make the best use of available facilities, that the following ideas are presented.

Awareness of Child's Reading Level. It is natural for a librarian to recommend to a fifth grade child a book designated by a publisher for a ten year old. A cooperative librarian will welcome a list of the independent reading levels of pupils who should be protected from material that is too difficult. This can be very helpful when a library project is started in the public library as well as at school.

Readability and Interest Levels. Available sources indicate both the readability level and the interest level of a vast number of children's books.[3] The

1. Buest, Nora E. "School Library Standards, 1954." Bulletin 1954, No. 15, Department of Health, Education, and Welfare. Washington, The United States Government Printing Office, 1954.

2. Ibid

3. Spache, George. *Good Books for Poor Readers.* Gainesville, Florida, The University of Florida, 1954.

coding of these levels inside the cover facilitates the selection and recommendation of books for the child whose independent reading level is known. Some children will avail themselves of this means of identifying a book of the desired difficulty.

Sample Books. In many schools an accumulation of sample books is available for inspection and is used especially when new books are to be ordered. Many of these books have either an obscure indication of grade level, or none at all. It is helpful to have the grade level indicated clearly inside the front cover. Also, since requisitions usually call for prices, either a file or price lists by publishers, or an indication of the price inside each book cover is a desirable time saver.

Encyclopedias. Children's encyclopedias today are of superior quality. In a limited sense they are costly, yes. But for educational value—quality and quantity of material—they are probably unsurpassed. There are several editions that have strong appeal in format and content and are written so that children from third reader level up can profit by reading them. Below this level children are intrigued by the pictures and by the content when it is read to them. It will take librarians and teachers together to place the available encyclopedias where they will do the most good. When found in a permissive classroom they are given heavy usage by children as well as teacher. But when the discussion turns to the subject of woodchucks' hibernation, and the children and perhaps the teacher have never even seen a woodchuck, what happens? If the encyclopedia is in the room, a delightful lesson ensues. But if the encyclopedia is at the other end of the building in a library, or in the classroom of the highest grade in the building, hazy concepts that could have been cleared persist. Worse than that, teacher and pupil build a habit of accepting hazy concepts. It is clear that this author is in favor of an authentic set of encyclopedias available in every classroom. Wishful thinking? Well, let every teacher and librarian use his influence toward more availability of this excellent teaching and learning aid.

Human Resource File. The library is an excellent place to keep a human resource file. This may include pertinent information about people who are available as speakers, who are willing to open their places of business for field trips, who will demonstrate processes, or in some other way contribute to a school activity. The name of the firm or organization and/or the contact person should be recorded together with the address, phone number, and type of service available.

Materials Library. Fortunate indeed is the school that has a materials center, either in the local building or in a central library. There is an advantage in having maps, films and science materials available on call without having to keep them in a given classroom indefinitely. Some large systems are finding it possible to have a materials librarian.[4]

Supplementary Classroom Books. Librarians and teachers together can solve such problems as: whether some, or all, supplementary books shall remain in the classroom permanently; whether books can be borrowed from the library in quantity for an extended period of time, and if so, how many may be taken at one time, and for how long. Extensive borrowing can be arranged with many public libraries if requested.

If supplementary books at all needed

4. See the article by Amo DeBernardis in this issue of *Education*.

levels are kept in the classroom. it is desirable to have each child understand where he will find material readable for him. One device is to designate specific shelves for certain groups of children. Some children enjoy a possessive feeling if their names are posted above their section of the bookcase.

Textbook Supply. When all children in a given grade were taught on the same level, it was natural that all books designated for a certain grade should be kept in that grade room. The room teacher felt responsible for those books and sometimes was over-possessive about them. Today, when each teacher groups her pupils on several levels, she needs a source of textbook supplies as flexible as the demands of her grouping situation.

Some schools are answering this need by having textbooks in a central library, or storeroom, where they may be checked out as needed. The advantages of this are that fewer textbooks are needed, they are more readily available, and teachers do not have to borrow from each other.

Materials for Core Curriculum or Experience Approach. Librarians are usually helpful when materials on a given subject are needed. Anticipating such a need early makes it possible to avoid conflict with others teaching a similar unit. When the core curriculum or the experience approach is used, the teacher may need to help the librarian understand the need of the class to search for materials which are on many readability levels, although centered around one main theme. The teacher who uses literature as source material for a unit should be acquainted with the indexes of poems and of stories that most libraries have available. Some libraries keep these indexes within arm's reach, while many teachers have not yet learned of their existence.

Library Improvement. Obviously, the major goal of a faculty library committee is to strive for the constant improvement of the library. To achieve this goal it is necessary to develop an effective committee organization, as follows:

A chairman works with the librarian to formulate a general plan. Each member of the committee may be asked to designate a subject matter area or other classification of books in which he is interested and will be willing to work. Then, within his chosen area he will work with the librarian. He will be called upon to advise on such problems as what books to discard, which lost books should be replaced, and how many copies of each book are needed. He may also advise on continuance or discontinuance of periodical subscriptions and the inclusion of new ones. The committee is always alert to new publications and provides a way for other staff members to have access to brochures, Library of Congress cards, etc., so that all may know what is available. The committee also channels requisitions.

Serving on a library committee leads to an intimate acquaintance with the library. Invariably, the teacher involved finds herself using the library more freely than ever before. Perhaps the most important result is the mutual understanding which is developed between faculty and librarian. This, in turn, is bound to result in better service to children.

An Instructional Materials Center

By AMO DE BERNARDIS
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Why an Instructional Materials Center in Each School?

EFFECTIVE teaching requires not only a good teacher but also the proper facilities and a rich supply of equipment and materials to do the job. The day when a single textbook would suffice as the teaching tool is now long past. Today the classroom teacher uses many books, periodicals, newspapers and pamphlets. Science and technology have had their impact on the tools for teaching. Motion pictures, radio, slides, filmstrips, recordings, and now television are a few of the materials of the modern classroom. The types of equipment needed in a good instructional program are also many and varied. The opaque and overhead projectors, science kits and tape recorders are but a few which are being used.

When the teacher was concerned with only one textbook for each subject the problem of selection, handling and storage of these materials was relatively simple. However, as the variety and quantity of these instructional aids increased so did the problem of their management. And, as teaching is a complex process, the teacher cannot be expected to expend undue energy in locating and obtaining these many new teaching resources. The school, however, must be so organized as to encourage the use of new methods and materials. It must make it relatively easy for the teacher to obtain the necessary tools for the classroom. The resource center in the school may well be compared to the modern shopping center where everything is organized for the convenience of the shopper. Not only are the goods arranged for convenience but they are displayed to attract the attention of the prospective buyer. The school's instructional center has the same problems of merchandising its goods as does the shopping center. They must be attractively displayed and organized so the teacher needs only to exert a minimum of effort to locate what he needs. The center is so organized that it encourages the teacher and pupils to shop for instructional materials and equipment which will help them in their educational program.

How to Get Started

Every school already has many teaching materials. However, most of these aids are centralized in the individual rooms. The map whch was purchased for Miss Jones' sixth-grade class three years ago still hangs in her room. Miss Jones is no longer using the map. Four years ago a set of social studies charts was purchased for Mr. Smith. He is no longer with the school and the charts are stored on the top shelf of the tall cabinet in the room. The new teacher hasn't discovered them yet. These stories and similar ones could be duplicated in practically any school in America. Almost every teacher has a picture, a

clipping file, and a collection or two in his room. However, only a few teachers know of these materials and recognize them as sources or aids to other teachers. The problem of instructional materials in a school is a very real one. As long as no system exists in a building for collecting, cataloging, and distributing the various teaching tools we can expect to have many valuable aids lying idle in closets, attics, and storerooms.

Many schools have started their teaching resource centers by taking a complete inventory of the building. This survey included every nook and corner in the building. Not to be overlooked are the attics and the custodian's storerooms. It will be amazing to see what a variety of materials and equipment can be discovered in the average school. The amount seems to be in direct proportion to the age of the school.

The school inventory should not be the result of an administrative decree, but should be worked out as a staff project. Principal, teacher, secretary and custodian all should help develop the plan and assist with the taking of the actual survey. Inventory sheets or cards should be available to list all equipment and materials. No item should be destroyed until a committee has had the opportunity to determine its value. A piece of equipment which is junk in the eyes of one teacher may be just what the science or shop teacher needs for his experiments. As the materials are cataloged and evaluated, plans should be made to keep the inventory up-to-date and to let all teachers know what is available. Some schools use a card catalog while others print a handbook of the available materials for each teacher. The best system would utilize both of these methods. The card catalog has the advantage of flexibility, while the handbook places the list of resources at the teacher's right hand.

What to Keep

As the inventory progresses many items will appear which seem to have little use. Some schools have found it advisable to develop an odds and ends section in the center. Here are placed such items as old motors, pieces of wire, plastics, metal, rope, or any material or equipment which the teacher or students might need in a unit of work. No piece of equipment or material should be destroyed until it has been evaluated as to how it might be used in teaching. Even an old map on a roller which is no longer usable as a map can be dismantled and the springs salvaged. Motors which no longer run have wire, carbon, brass which can be used by students in the science projects. If proper storage is planned for the so-called "junk", teachers and students will have a rich source of materials. Boxes or sets of drawers properly labelled make excellent storage containers for these odds and ends.

Finding Space for the School Instructional Materials Center

With the present shortage of classrooms, space in most schools is at a premium. Lack of adequate space, however, should not deter the starting of a school center for materials. Some schools have made their initial start in the principal's office or a storeroom. *The important thing is to get a start.* As the values of the center become evident to teachers and administrators more adequate space will be found. In the beginning, an old storeroom or workroom can be adapted as a center for materials.

Where the school has a library this can be developed as a center to service not only books but all of the other materials and equipment as well. At the outset the space is not the most important consideration. A start has to be made and lack of adequate space should not discourage the planning of a materials center. The main requirements are file cabinets, shelving, storage bins and boxes for the various teaching aids. Some centers have found it advisable to combine the teacher's workroom with the school center. In this way the workroom does double duty—it can serve the teachers and the center personnel as well. No matter how small and inadequate the space may seem, getting started is the first and most important step. As the service proves itself to the administrators, teachers and students, adequate facilities and staff will be found.

Operating the Center

If the center is to be a vital force in the instructional program some one person must be given the responsibility for giving it direction. In a small school this may fall to a teacher or a committee. In a school where a librarian is part of the staff he might well be the person to head up this service. Teachers are not concerned with who runs the center; they are concerned with what kind of service they will receive. The person selected to supervise the center must first be a superior teacher and be enthusiastic over the philosophy of a central source in the school for all teaching materials. He must be one who likes to work with people and likes to be of help to teachers and students. Operating a center requires a great deal of time and energy. It is asking too much, however, to expect one to direct a center in addition to his regular teaching duties. Compensatory time must be provided for the person selected to head the center. In a small school it may be for a period or a day, while in a larger school the director of the center will spend full time in providing materials to the teaching staff.

If the philosophy and operation of the center is planned cooperatively by the whole staff and its direction clearly indicated, some person on the faculty will be found who would like to take over this function and do a good job of it. The proper attitude is of the utmost importance as many a good idea has died because the person responsible did not believe it to be really worthwhile.

What Services can Teachers Expect?

Once the school's materials center is organized and in operation the services it will provide will be many and varied. Regardless of size, a few of the services which the center can offer teachers and pupils are:

1. Provide a central source for all types of teaching materials and equipment for the school.
2. Assist teachers and pupils to locate and obtain needed teaching aids.
3. Organize and keep up-to-date a file of all instructional materials and equipment in the building, and a file of community resources.
4. Maintain a liason with the district or county materials center.
5. Keep materials and equipment in a good state of repair.
6. Keep teachers informed on new materials.
7. Organize in-service training in the use of equipment for students and teachers.

8. Keep adequate records on condition of equipment and materials.
9. Prepare a budget for needed materials and equipment.
10. Assist with production of local materials.

Is it Worth the Effort?

During the past twenty-five years our modern technology has produced many and varied teaching aids for instruction. Books have become more numerous. Motion picture films are now recognized as teaching tools. Radio, and now television, can make learning more effective. The use of the community as a resource for teaching offers many learning and teaching possibilities.

If these varied teaching resources are to be used they must be readily available; in fact, they should be as easy to obtain as reaching on the library shelf for a book. The school's instructional materials center can perform this function. Cooperatively planned and organized the teachers and students will look to the center as an important part of the teaching and learning process. Not only will teachers use the materials for teaching but the students will learn to use a variety of media in the process. Students growing up in our fast-moving, scientific age must learn to use all types of communication devices. The school's instructional materials center can help meet this challenge.

MORE BOOKS FOR CHILDREN

AND THE WATERS PREVAILED. By D. Moreau Barringer. Illustrated by P. A. Hutchinson. N. Y. E. P. Dutton. 1956. $3.00.

The theme of this book is one entirely fresh in books for young persons. It is the exciting story of the development of abstract thinking and the power to reason in a child of the Stone Age. Andor, the adolescent about whom the story revolves, lived in that strip of land, now under the Mediterranean, believed to have been a bridge between Europe and Africa. How Andor thinks through his problems and how he warns his tribe of danger are highlights of the story.

—PAUL ZANKOWICH

SONG OF THE WHEELS. By Christine Price. N. Y. Longmans, Green. 1956. $3.00.

This story is set in the Hudson Valley, and around Yonkers, at the time of the Farmers Rebellion in the early years of the eighteenth century. Jared, who dearly loves the sound of the oxcart wheels, thinks that things for his family are going to improve as the hard times his family endured as indentured servants come to an end. But the early eighteenth century is no easy time for people in the Hudson Valley. He and his family bravely pursue the paths of justice despite the trials of the environment.—PAUL ZANKOWICH

THE LAND AND PEOPLE OF AUSTRIA. By Raymond Wohlrabe and Werner Krush. Philadelphia. J. B. Lippincott. 1956. $2.75.

The Land and People of Austria is another in Lippincott's "Portraits of the Nations" series. In this volume the story of Austria, its geography, history and culture, is told in a way that will please young people of junior high school age. Handsome photographs of the Austrian scene add to this text.

—PAUL ZANKOWICH

THE REINDEER TWINS. By Jane Tompkins. Illustrated by Kurt Wiese. Philadelphia. J. B. Lippincott. 1956. $2.65.

Fleetfoot and Star are reindeer twins who live at the top of the world near the shores of the Arctic. Their story is a fascinating one and it will interest youngsters from 8 to 12. The life cycle of the reindeer is delightfully traced by the author.—PAUL ZANKOWICH

Selecting Instructional Materials *and* Equipment *in* Today's Schools

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THE wonderful world in which we live is filled with things designed to encourage learning! Newer media of communication, such as films, radio, filmstrips, television, and recordings now appear with the books, magazines, newspapers, maps, and globes long considered as teaching tools. Increasingly we have come to consider all these media as instructional materials, and to be concerned with the equipment required for using some of them. There are qualitative differences within each type of material and much skill is required in choosing the best tool for each situation.

Who is to choose the materials and the equipment for the modern school? Are there commonly accepted criteria to be used as a basis for choice-making? What are the basic sources which should be available in any school system to assist in this choice-making? What opportunities should any modern school system provide for teachers in relation to the selection of instructional materials?

These are the questions which must be answered in a world in which man's inventive genius has provided a startling mass of teaching tools, some good and some bad. It is these questions which form the basis of this paper.

Who Is To Choose?

The opportunity for each teacher to choose the instructional materials and equipment for the teaching and learning he plans is basic in the modern concept of creative teaching. It has long been recognized that the further selection of materials is removed from the point of use, the more likely it becomes that the materials and equipment will be ineffective in the specific teaching situation. For this reason, it is the teacher's responsibility, as well as his privilege, to select the tools with which he plans to work.

This responsibility requires the good teacher to be skillful in relation to the selection and use of materials and equipment. The financial means for purchasing these aids should be allocated by the school administration from tax supported funds. Teachers—and parents—should not be asked to purchase these essentials for the school, either directly, or through money-raising activities. But when the funds are

publicly provided as part of the basic school program, the teacher must have the ability and the information to insure wise choice of what is accessible in the school. Oddly enough, the less money provided for instructional materials, the more important becomes their selections.

Since modern schools no longer are one-teacher institutions, the process of selecting the tools for teaching has become a cooperative one. Perhaps no aspect of today's school program requires more democracy in action. Groups of teachers, principals, supervisors, librarians, and other material specialists must combine their efforts to provide the best possible school environment with the funds available. This is true at the school building level, and equally so at the city, county, or state levels, since materials of some types are usually shared on a multi-school basis.

Assuming this cooperative endeavor, the teaching aids that are accessible in any school system reflect the professional skill of all those who are employed to educate the boys and girls in that community. Every teacher—and every specialist—shares this responsibility. Once the instructional materials and equipment are made accessible in any school system, they become effective only as each teacher selects carefully from them the best for each teaching purpose.

The importance of involving boys and girls in the selection of the materials for learning should not be overlooked, although space does not permit adequate discussion here. Since choice of materials is a basic learning itself, the learner should share this experience. His maturity affects the area in which his choice-making should operate, but even Kindergarten pupils profit from this activity in a controlled environment.

What Criteria Are Useful?

Skillful teachers develop continously the values by which they judge materials and equipment. While no one statement of criteria is holy, there are commonly accepted standards which have proved useful. Most teachers prefer to use statements such as these as a starting point as they use their freedom to develop their own criteria.

It is significant to recognize that many of the basic criteria long used in relation to selecting the more traditional materials such as books, pictures and magazines are applicable as well to many of the newer audio-visual aids. While each type of instructional tool may have some physical characteristics in format which require special skill in evaluation, the various media of communication seem to lend themselves more to common evaluation standards than to those exclusively for one type.

One group of educators, representing many instructional levels and many types of positions, recently attempted to identify the criteria which are applicable to the selection of all types of materials and equipment. These six represent their findings:

"1. Is selection cooperative, with principal, teachers, pupils, supervisors and materials specialists participating to the extent that each is interested and competent?

2. Is selection based on knowledge of the needs and interests of the pupils and of the teachers?

3. Is selection made with knowledge and understanding of materials available for selection?

4. Are the items selected related to the curriculum and suitable to the teaching methods and purposes in the schools?

5. Are the items selected to the grade and interest levels for which they are suggested?

6. Are all types of materials considered in choosing those for the materials center, to insure a variety of aids to teaching and learning, without justifiable emphasis on any one type?"[2]

This same group of teachers and specialists developed the following standards with application to the specific types of materials and equipment indicated.[2] These standards are presented here for the use of other teachers, with the recognition that their value lies in the combined experience and judgment of the educators who evolved them:

"MAGAZINES

1. Do the magazines selected fit the needs of the school program in relation to readability, subject or interest coverage?

2. Do the magazines selected fit the needs of the individuals in the school in relation to interests and problems?

3. Are the magazines selected the best for the purpose and the price?

GLOBES

1. Is it durable? It should be sturdy enough that pupils may handle it freely.

2. Is it a 16-inch globe?

3. Are the colors pleasing? They should be clear, strong, and readable, but not garish.

4. Is one outstanding color used to indicate all man-made features, such as cities, political boundaries, railroads, canals, etc.?

5. Are the symbols used to show cultural or man-made features easy to distinguish? For example, large dots to indicate large cities, smaller dots for next size cities, and so on; solid heavy lines for political boundaries, etc.

6. Are symbols for cultural or man-made features shown consistently? For instance, there are so many large cities in Western Europe that cities of less than 100,000 population cannot be shown; Africa has so few population centers that all cities—2500 and larger—can be shown. However, if this were done it would give a wrong concept of the city pattern. To make it consistent, no item should be shown anywhere on the globe unless that item can be shown everywhere it occurs on the globe.

7. Is the type good?

8. Is the legend complete?

9. Is the mounting flexible? (The cradle mounting is most flexible because the globe can be completely removed, carried about, measured, etc.)

WORLD MAPS

1. Does the map show the whole world? (Check the polar regions.)

2. Is it mapped on an equal area projection? (Look at title of map for this information.)

3. Are sufficient parallels shown? (About 10° to 15° intervals.)

4. Are the parallels straight lines spaced equal distances apart?

5. Do the 60th parallels measure approximately one-half the length of the equator?

6. Do the meridians converge at the poles?

7. How many straight or standard meridians does the map have? Straight or standard meridians should measure one-half the length of the equator to be

true to scale. To maintain good shape a world map should have two or more standard meridians.

8. Is the map political-physical?

9. What is the scale of miles? A scale of more than 500 miles to the inch is not desirable because the features of such a map are too small.

10. Are the colors distinct and pleasing?

11. Are the symbols consistent?

12. Is the legend complete?

13. Is the mounting flexible? Maps should be mounted in single copies to permit best use. Folded maps are particularly desirable because they are easier to handle and store than other types of mounting.

MAPS OF CONTINENTS

1. Is the continent shown in relation to other land masses? On the map of South America is the adjoining part of Central America shown? Is Asia shown in relation to Africa and Europe?

2. Is the scale of miles large enough to show more detail than a world map could show?

3. Are the colors pleasing?

4. Are the symbols consistent?

5. Is the legend complete?

ATLASES

1. Is there an index to all places located?

2. Is there a pronouncing gazetteer?

4. Are the maps clear and legible?

5. Does it include all types of maps, physical, political, economic, etc.?

6. Is it up-to-date?

7. Is the scale on maps plainly indicated?

8. Is the lettering distinct and easily read?

9. Is the United States the country of origin?

HISTORY MAPS

1. Is the map simple in content, clear, and not confusing because of innumerable details?

2. Is it historically accurate?

3. Is it attractive?

4. Do the symbols and lines stand out clearly so that the map is readable from any part of the classroom?

5. Is it appropriate for the grade in which it is to be used?

6. Does it have a meaningful title?

SLIDES AND FILMSTRIPS

1. Are they true to facts?

2. Are they appropriate to your age level and purposes?

3. Are they good in technical quality, i.e., with sharp lines, good coloring, no blemishes, scratches, etc.?

4. Are they worth the price in terms of future as well as present use?

5. Have you viewed them through a projector? (Some defects may not be seen by the naked eye.)

MOTION PICTURES

1. Is the film basic teaching material? Is it authentic?

2. Is it of suitable length for comprehension—ten, fifteen, twenty minutes of film showing?

3. Does the film incorporate teaching qualities that reflect the laws of learning: readiness, repetition, and effect?

4. Does it motivate pupil activities?

5. Is the film within the level of age of the group to which it is to be shown?

6. Is the action in the film such that the pupils will "live" through these experiences with the actors?

7. Are photographic quality and sound good?

8. Will the film actually help build desirable attitudes and help develop abilities?

RECORDINGS

1. Is the recording appropriate to the purpose intended?

2. Does it have clear tone quality?

3. Is the content and vocabulary suitable to the maturity level of the pupils with whom it is to be used?

4. Is the material interestingly presented?

5. Is it up-to-date and authentic?

6. Does it encourage intelligent listening?

7. Does it stimulate learning and promote follow-up activities?

8. May it be used effectively without a teacher's manual?

PROJECTION EQUIPMENT

1. Is there a well defined plan of use before purchase?

2. Does it suit the purpose for which it will be used?

3. Is there an agency in the state which will provide full maintenance when the machine needs repair?

4. Is the dealer reliable?

5. Is there a supply of material available to use with the projector?

6. Is its weight sufficiently light for easy moving?

7. Is it easy to operate?

8. Are the parts accessible for cleaning and oiling?

9. Are the parts standard and easily replaced?

10. Is it possible to have competitive tryouts before purchase?

11. Have you considered the advisability of standarizing equipment within a county?

12. Does it have a coated lens, which gives a brighter light?

ADDITIONAL CRITERIA FOR OPAQUE PROJECTORS

1. Is there adequate illumination—at least 500 watts?

2. Is it light enough to be carried about easily?

3. Will it accommodate at least 6" x 6" in dimension?

4. Are reflectors readily available for replacement?

ADDITIONAL CRITERIA FOR SLIDE AND FILMSTRIP PROJECTORS

1. Is there adequate illumination—at least 300 watts?

2. Is operation of the machine comparatively simple?

3. Is there minimum number of interchangeable parts for either use?

ADDITIONAL CRITERIA FOR 16MM PROJECTORS

1. What special features are necessary or even desirable?

2. Does it have at least a 750 watt lamp?

3. Does it have a pilot light?

4. Are the arms of sufficient length to accommodate a 1600 foot reel?

RECORD PLAYERS

1. Is the machine designed for playing recordings at all speeds?

2. Is the machine equipped adequately for amplification for the use intended (classroom, auditorium)?

3. Is the tone arm heavy enough for good tone quality, yet light enough to prevent the needle's cutting the recording? (Not more than one to two ounces.)

4. How satisfactory are fidelity of sound, cost of maintenance, availability of records, portability, ease of operation?

RECORDING MACHINES

1. Is the school first well-equipped with other audio-visual materials?

2. Is the machine to be used for educational purposes?

3. Will it reproduce without distortion?

4. Is it simple to operate?

5. Does your school need a portable machine to be used in several places?

6. Does the machine require little maintenance?

7. Is there an agency within the state which provides full maintenance if the machine is in need of repair?

8. Is the amplifying output sufficient for all required use?

9. Is it possible to have competitive tryouts of the equipment prior to purchase?

10. Is the dealer reliable?

11. Will the number of teachers using this piece of equipment, or its importance to a few teachers, be sufficient to justify its purchase?"[2]

No criteria for the selection of books were developed by this professional group, since so many good statements so long had been available. One of the best of these was offered years ago by Mary Peacock Douglas, then State School Library Supervisor in North Carolina:

"1. Is the subject matter suitable and desirable for young people?

2. In factual books, is the subject matter accurate, authoritative, and up to date?

3. Will the subject matter tend to develop desirable attitudes and appreciations?

4. Does the subject matter interpret historical or modern life situations from a true and unbiased viewpoint?

5. Is the style of the book—vocabulary, sentence structure, form, diction—appropriate and effective for the subject matter and for the readers for whom it is intended?

6. Is the format of the book satisfactory—in appearance, size, durable binding, opaque paper, wide margins, type, spacing between lines?

7. Are the illustrations satisfactory from the standpoint of text, of clarity, of art value?

8. Is the author qualified to write in this particular field?

9. What is the reputation of the publisher in relation to desirable books for school libraries?

10. Has the book been included in any recognized list or review of books suitable for school libraries?"[1]

What Are Basic Aids To Selection?

As wonderful as the instructional materials available today are the printed lists which offer help in their selection. Some basic lists may be found for each type of material, and a few of the current lists cover all types of materials. Provision of these lists for those who are given the problem of selection is essential for encouraging wise expenditure of public funds. Equally important is the necessity for professionally-trained teachers to be familiar with these useful sources and to know how to use them to good advantage.

Generally, these basic aids are of four types:

1. Recommended lists, cooperatively developed and published at intervals by state, county, city or independent school systems or by professional associations.

2. Current periodicals reviewing instructional materials and equipment, some devoted exclusively to the evaluation task.

3. Special evaluated lists, compiled by experts and sold commercially; some of these are most useful in suggesting basic collections, complete information necessary for making purchase orders, and helpful information in organizing materials collections, such as classification numbers, subject headings for card catalogs, etc.

4. Lists provided free by publishers, producers, book jobbers, etc., and valuable as guides to what is available, but requiring skillful use since their chief aim is to sell rather than to evaluate.

Materials specialists here come to rely on the various lists of recommended materials published by the American Library Association (50 East Huron Street, Chicago), the National Council of Teachers of English (211 W. 68th Street, Chicago), and the National professional groups concerned with subject or school level specialization.

Perhaps even more helpful are the various catalogs published by the H. W. Wilson Company, 95 University Avenue, New York, designed to recommend the best available in the major areas of books and magazines for children and young people, educational films, and filmstrips. These publications follow a pattern of publication, with basic catalogs issued at regular intervals and supplements periodically to keep them up-to-date. They include complete order information, classification numbers, subject headings for cataloging, and descriptive annotations of the materials listed. *The Children's Catalog,* covering books and magazines for kindergarten through 9th grade; *The Standard Catalog for High School Libraries,* covering books and magazines for junior and senior high schools; *The Educational Film Guide,* covering 16mm films; and *The Filmstrip Guide,* covering educational filmstrips, are major publications of the H. W. Wilson Company. Similar catalogs recommending educational recordings and map and globe materials would be most useful but are not yet developed.

How Is Wise Selection Stimulated

New developments in instructional materials and equipment continually challenge the modern educator to learn the latest information about them and to develop the fine art of evaluation. Each year brings major changes in the various types of materials and equipment, and one of the professional responsibilities of the educator is to be aware of those that are improvements.

An example of such change may be noted in the area of books designed for the school library. Less than ten years ago, the Joint Committee of the National Education Association and the American Library Association deplored the fact that trade books for use in schools were not available in durable bindings at a reasonable cost. The years that followed brought the development of "prebound" books, with paper, stitching, and binding designed to withstand hard use, yet often even more attractive than in the original trade binding. Pioneers in

this field, the E. M. Hale Company of Eau Claire, Wisconsin, were able to produce their line, known as the Cadmus Books, at no extra cost to the buyer by restricting the titles published to a list selected by a carefully chosen committee of reputable librarians.

While Cadmus Books are unanimously recommended on lists made by professional librarians in preference to the regular trade editions of these same titles, many schools are not yet aware of their availability or desirability, both economically and artistically. Similarly, many schools do not yet know of the availability of pre-bound books from other companies.

How can teachers in service be stimulated to keep up with such new developments? The school system has the responsibility for providing many opportunities to its personnel for professional growth in this area.

Those responsible for materials and their selection and use should be provided the standard and basic selection aids at school expense. Whenever possible, exhibits and displays should be provided of new equipment and materials, from which teachers and pupils may make selections for purchase. Many of the reputable publishers, producers, and book jobbers will cooperate in providing such exhibits when requested. Often they provide free the services of consultants or demonstrators, whom they have employed because of their professional training and experience.

Attendance at state and national professional meetings offers excellent opportunities for examining new instructional aids, talking to others about them, and seeing demonstrations of their use. Here is one more example of the value of professional meetings as in-service education!

It is assumed throughout this paper that every school system will recognize the importance of providing qualified librarians and other materials specialists in elementary and secondary schools. These specialists should offer leadership in the schools in relation to materials, but their effectiveness will be determined by their ability to work with teachers as well as with pupils.

In Summary

New developments in the tools for teaching challenge modern teachers and materials specialists as never before to keep up wih the newest and best and to improve in their ability to judge and to use them. Knowledge of the basic criteria for evaluation of the various types of materials and equipment requires continuous study. The standard selection aids offer reliable advice concerning what is available, how to use it, how to buy it, and in some cases evaluate it. Exhibits, displays, and consultant help are often stimulating. Materials specialists are most desirable for the leadership they can offer.

Good schools now recognize the importance of providing adequately for instructional materials and allowing those who are to use them freedom to cooperate in their selection. As one administrator said, "The surest way to help a good teacher is to give her good tools for teaching!"

REFERENCES

1. Douglas, Mary Peacock. *Teacher-Librarian Handbook.* Chicago: American Library Association, 1949.

2. Florida Program for Improvement of Schools. *The Materials Center* Bulletin 22c. Prepared under the direction of Sara Krentzman Srygley. Tallahassee, Florida: State Department of Education, 1955.

Developmental Changes *in* Thinking*

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AT A Parent-Teachers Association meeting in a certain eastern town recently, a speaker representing the social studies curriculum ably expounded a doctrine of the child's "expanding horizon." The logic was clear: one leads the primary pupil gradually from his home, to the community, to the state, to the nation, and finally to the Western hemisphere (the rest of the world lies beyond the horizon in this school.) The reason for this orderly course of study was said to depend upon the development of the child's ability to grasp concepts. That is, the "home" is an immediate, simple, and relatively concrete concept, whereas the "nation" is a more complex and abstract concept. Without considering the merits of this particular curriculum, it is cited as an example of a fundamental notion about how and what the child should learn. Very similar ideas, in fact, were expressed at the same meeting about arithmetic and natural science.

How justified is this view? Anyone who has taught elementary school children knows two things: first, that children have different abilities at different ages (or, more accurately, different degrees of certain abilities), and, second, that learning must and does proceed from more simple functions to more complex functions. It would be an absurdity to teach children to multiply before they can count; at the very least, prior experience with numbers makes multiplication vastly easier to learn and understand, even if a child could memorize the multiplication table by rote.

Both of these points are truisms; nevertheless, the question of just how and when various intellecual abilities develop remains an urgent puzzle in child psychology. Indeed, except for vocabulary, there is still a dearth of really authentic information about it. Standard intelligence tests do not pretend to answer the question. They merely reflect, in a practical way, the commonsense basis of the school curriculum. Thus, although scores on intelligence tests yield a well-known picture of intellectual growth (1, 12), they do not supply any understanding of the functions necessary to pass the tests. For this, it is necessary to turn to more basic research. We should inquire quantitatively, at what rate memory, conceptual abilities, reasoning, attention, and so on, develop, and qualitatively, what manisfestations of these abilities occur at different ages. The answer will not necessarily disagree with the placement of tests in an intelligence scale, but it may clarify the arrangement, and certainly will lead towards better knowledge of the functions involved.

*Thanks are due to Dr. John Helmick, of Educational Testing Service, for enlightening preliminary discussion regarding the content of this article.

Developmental Sequences

By way of focussing the discussion, let us first consider briefly the kinds of phenomena which change with increasing age. Five sequences may be identified, as follows:

1. Physical growth. No particular comment is required, since these processes are generally familiar.

2. Intelligence. Included here are not only the test performances which we usually think of as "intelligence", but, of immediate interest in this article, various "abilities" such as concept formation and reasoning. Incidentally, the use of the term "ability" in this paper signifies what the child *does, rather* than some inferred organic basis (the term "capacity" is useful in the latter sense.)

3. Experience. This sequence refers to the acquisition of knowledge, which might be regarded as closer to achievement than to intelligence, although we do not mean to intimate that they are independent of each other.

4. Mental organization. This trend pertains to the establishment of "selective and regulating processes",[17] as a result of which the child uses his knowledge and controls his behavior. Terms like attitude, interest, value, purpose, concept, and so on express facets of this development.

5. Learning behavior. We mean, here, the changing relationship of the child to the conditions under which he learns, or changes in the effectiveness of various aspects of the situation, such as the role of identification, participation with others, responsiveness to suggestion, and so on. This sequence has usually been considered in connection with personality development, rather than with behavior in the classroom. It has not yet been adequately studied.

All of these functions interplay, of course, but the separate statement of them clarifies the problem of tracing intellectual changes with increasing age. It is evident, for instance, that curriculum planning demands recognition that all five sequences are taking place. For the present purpose, we shall ignore all of these progressions, except for the second.

General Changes

What general principles can be formulated about intellectual changes with age? A careful survey of available studies suggests that certain statements can be made (see 2, 3, 13, and 17, as background sources); we shall indicate later what is known about some specific kinds of abilities.

In the first place, one of our commonsense observations is amply borne out; namely, that performance proceeds from simple or easy to complex or difficult. Whenever children of different ages have been investigated, it has been found that ability to deal with given kinds of tasks improves as the child gets older. This result occurs in all sorts of situations, reasoning, problem solving, conceptual, etc. (see, for example, 6, 9, 10, 11, 14, 15, 18, 19.)

In the second place, the other commonsense observation is less clearly supported. There appear to be no intellectual processes which emerge sharply at a given age. Certainly, during the period with which we are concerned, the early school years (roughly ages six to 12), all the abilities studied are present in at least some degree. In general, then, the teaching problem is more one of appropriate difficulty and level of experi-

ence than of the kind of intellectual function demanded.

In the third place, increasing ability corresponds more closely to an even, regular progression than to discrete stages. There is scarcely any evidence of sudden change, other than that which can be explained on a clinical basis. On the other hand, the rate of increase varies in three ways. Different children, as everyone knows, show different rates of increase in the same ability. Further, different abilities increase at different rates (for example, the ability to form "first hierachy" concepts seems to develop more rapidly than the ability to form "second hierachy" concepts,[10]) Finally, the same ability grows at different rates at different ages; for instance, memory increases more rapidly between the ages of two and eight, than between eight and 18.[12] On this third point, however, much remains to be learned, since performance necessarily depends upon the character of the test item. This would not be an important factor for a test like immediate memory for digits, but it would be in reasoning tests, where it is very difficult to achieve a graduated scale of difficulty.

Finally, the trends in intellectual development which have been investigated appear to overlap markedly. Concrete and abstract conceptual performance develop simultaneously, even if at different rates; ability to manage spatial relationships increases at the same time as inductive reasoning, although, again, not necessarily in precisely parallel fashion. Furthermore, there is no evidence that one type of ability is supplanted by another; rather, the various abilities run along together, and become organized in the intellectual resources of the individual. Older children and adults do not think abstractly, to the exclusion of concrete processes; rather, they employ both kinds of function under appropriate conditions.

All of these principles are well established in child psychology. Teachers, wittingly or unwittingly, tend to act in accordance with them. "A little bit of everything" does not sound like a scientific policy, but, in effect, it is useful, not only because the classroom contains a wide variety of pupils who differ in interest and preparation, but also because, in fact, intellectual development does not fall into set stages or discrete functions. This conclusion is especially true for the elementary school years, by which time all the relevant abilities have begun to grow, and all continue to grow rapidly throughout this period. In general, problems of preparatory learning, stimulation of interest, acquisition and organization of knowledge, and creativity loom larger than the age at which particular abilities appear upon the scene.

Broad Trends

Let us disobey the precept stated above, to the extent of considering the beginning and end of intellectual changes during the early school years. That is, while recognizing that continuous, rather than discrete processes, are involved, let us contrast the character of development at about age six with that which has typically been attained at about age 12. It is to be understood that, in all these areas, children develop rapidly in a quantitative sense—that is, they know more words, can solve more problems, can learn more complex principles, and so on, the older they get. Our concern, however, is with qualitative changes during these years.

a. Verbal ability (see, specifically, 3, 4, 5, 20.)

Age 6. If a child does not know a word, he is likely to omit it. His definitions and usage of words often have an unusual, fluid, and concrete character, as if his words do not have stable, predictable meanings. He still is more aware of objects and activities than of the "names" for classes. His definitions are likely to involve description and demonstrations (e.g., pointing). He uses short sentences.

Age 12. By this age, the child is inclined to guess at the meaning of a word, with the result that he is more likely to make errors than the younger child. Words have achieved a more conventionalized and stable meaning. Sentences are longer and characterized by internal differentiation of structure. Words are used more in an abstract and "class" sense, with greater reliance on synonyms and explanations in defining meaning. The child appears to have achieved a high degree of distinction between objects and activities and the words used to refer to them.

b. Concepts (see 10, 15, 16, 17, 18.)

Age 6 Although at this age there is a conspicuous increase in abstract behavior (that is, the ability to form classes on the basis of generalized properties or to percieve similarities among related objects), nevertheless, the child is still quite concrete. He tends to treat objects more on the basis of their specific perceptual characteristics than on the basis of relations among them. At this age, there is reason to suppose that the growth of meaning is more rapid than the increase in vocabulary necessary to convey meaning (i.e., the child possesses, relatively, a larger repertory of concepts than of words.) The child is still somewhat egocentric, illogical, and immature in his conceptual behavior. The work of Jean Piaget, of course, has greatly contributed to our understanding of these features of children's thinking.

Age 12. By this age, the ability to deal with objects in abstract terms is well developed; objects can readily be categorized and properties can be generalized from exposure to separate instances. Words have become quite efficient indicators of concepts (one might say that vocabulary has caught up to a large degree with meaning). The child can deal with higher levels of generalization (in a sense, this means that he can perceive common elements among similar classes of objects, for instance, not only that carrots are different from beets, but that vegetables are different from fruits.) In general, fairly mature and logical conceptual behavior can be expected.

c. Reasoning (see 7, 8, 14.)

Age 6. As would be inferred from what has just been said, one finds that children at this age have difficulty in discovering and stating principles, although they can often do so, if given enough time. In solving problems appropriate to their level of skill, they display rather disorganized and subjective behavior. They are often interested, for instance, in irrelevant details, or in some aspect of the task which affects them personally.

Age 12. It is now much easier to learn principles required to solve problems. Behavior is relatively mature, organized, objective, and adapted to the requirements of the task. The ability to reason verbally and logically is well developed.

The foregoing summary, of course,

merely scratches the surface. We have concentrated on some of the changes which have actually been revealed in objective research. We have still much to learn. For example, some abilities have not been adequately investigated. Even those which have most often been studied would profit from more systematic work. Both "longitudinal" and "cross-sectional" research is needed. In the former approach, children are repeatedly measured over a long period of time; in the latter, samples of children at different ages are compared. Practically all research has used the latter technique. Investigation is especially needed for the period between ages six and 12, since, aside from the use of intelligence tests, most studies of intellectual processes have utilized either preschool or adult (college) subjects. It is both necessary and desirable to have information about intelligence tests, but, as we have pointed out above, such data reflect achievement, rather than processes of development. They do not provide us with basic knowledge about developmental sequences. The foregoing discussion has sought to indicate the character of these sequences.

REFERENCES

1. Bayley, N. "On the Growth of Intelligence." *American Psychologist*, X, (1955), 805-818.
2. Brooks, F. D. (with L. F. Shaffer). *Child Psychology*. Boston: Houghton Mifflin, 1937.
3. Carmichael, L. (Ed.) *Manual of Child Psychology*. New York: Wiley, 1954. 2nd. Ed.
4. Feifel, H. "An Analysis of the Word Definition Errors of Children." *Journal of Psychology*, XXXIII, (1952), 65-77.
5. Feifel, H., and Lorge, I. "Qualitative Differences in the Vocabulary Responses of Children." *Journal of Educational Psychology*, XLI, (1950), 1-18.
6. Gellermann, L. W. "The Double Alternation Problem: II. The Behavior of Children and Human Adults in a Double Alternation Temporal Maze." *Journal of Genetic Psychology*, XXXIX, (1931), 197-226.
7. Heidbreder, E. "Reasons Used in Solving Problems." *Journal of Experimental Psychology*, X, (1927), 397-414.
8. Heidbreder, E. "Problem Solving in Children and Adults." *Journal of Genetics Psychology*, XXXV, (1928), 522-545.
9. Long, L., and Welch, L. "Factors Affecting Efficiency of Inductive Reasoning." *Journal of Experimental Education*, X, (1942), 252-264.
10. Long, L., and Welch, L. "Influence of Levels of Abstraction on Reasoning Ability." *Journal of Psychology*, XIII, (1942), 41-59.
11. Maier, N. R. F. "Reasoning in Children." *Journal of Comparative Psychology*, XXI, (1936), 357-366.
12. McNemar, Q. *The Revision of the Stanford-Binet Scale*. Boston: Houghton Mifflin, 1942.
13. Munn, N. L. *The Evolution and Growth of Human Behavior*. Boston: Houghton Mifflin, 1955.
14. Peterson, G. M. "An Empirical Study of the Ability to Generalize." *Journal of General Psychology*, VI, (1932), 90-114.
15. Reichard, S., Schneider, M., and Rapaport, D. "The Development of Concept Formation in Children." *American Journal of Orthopsychiatry*, XIV, (1944), 156-161.
16. Thompson, J. "The Ability of Children of Different Grade Levels to Verbalize on Sorting Tests." *Journal of Psychology*, XI, (1941), 119-126.
17. Vinacke, W. E. *The Psychology of Thinking*. New York: McGraw-Hill, 1952.
18. Welch, L., and Long, L. "The Higher Structural Phases of concept Formation of Children." *Journal of Psychology*, IX, (1940), 59-95.
19. Welch, L., and Long, L., "Comparison of the Reasoning Ability of Two Age Groups." *Journal of Genetic Psychology*, LXII, (1943), 63-76.
20. Werner, H., and Kaplan, E. "The Acquisition of Word Meanings: A Developmental Study." *Society for Research in Child Development Monographs*, XV, (1952), No. 1, (Serial No. 51.)

DEPARTMENT OF BOOK REVIEWS

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PROFESSIONAL PROBLEMS OF TEACHERS. By Albert J. Huggett and T. M. Stinnet. N. Y. Macmillan. 1956. $5.25

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ST. JOHN FISHER. By E. E. Reynolds. N. Y. P. J. Kenedy & Sons. 1956. $6.00.

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